# ENVIRONMENTAL ASSESSMENT
# FOR
# RECONSTRUCTION OF TURTLE RIVER LAKE ROAD
## FOREST HIGHWAY 52 (County State-Aid Highway 22)

**CHIPPEWA NATIONAL FOREST**
**Beltrami County, Minnesota**

*Prepared Pursuant to 42 U.S.C. 4332(2)(C) by the U. S. Department of Transportation*
Federal Highway Administration, Eastern Federal Lands Highway Division
In Cooperation with the
U.S. Department of Agriculture
Forest Service

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## ABSTRACT

This Environmental Assessment (EA) addresses the plans of the Federal Highway Administration (FHWA), U.S. Department of Agriculture (USDA) Forest Service, the Minnesota Department of Transportation, and the Beltrami County Highway Department to perform needed reconstruction improvements to Minnesota Forest Highway 52 (CSAH 22) in Beltrami County, Minnesota.

The FHWA has two goals in selecting a preferred alternative. The first is to make the road safer for the growing traffic needs while minimizing impacts to the surrounding natural and cultural resources. The second is to upgrade the capacity of the roadway, so it can withstand heavier loads associated with current hauling levels, without diminishing the existing character of the roadway.

This document determines which aspects of the proposed action have potential for social, economic, or environmental impact. It also identifies measures that may mitigate adverse environmental impacts. Public involvement and coordination/consultation with other Government agencies is summarized in this document.

This document is prepared pursuant to the National Environmental Policy Act (NEPA), Section 106 of the National Historic Preservation Act (NHPA), Section 7 of the Endangered Species Act (ESA), the Clean Water Act (CWA), and Executive Orders protecting wetlands and floodplains.

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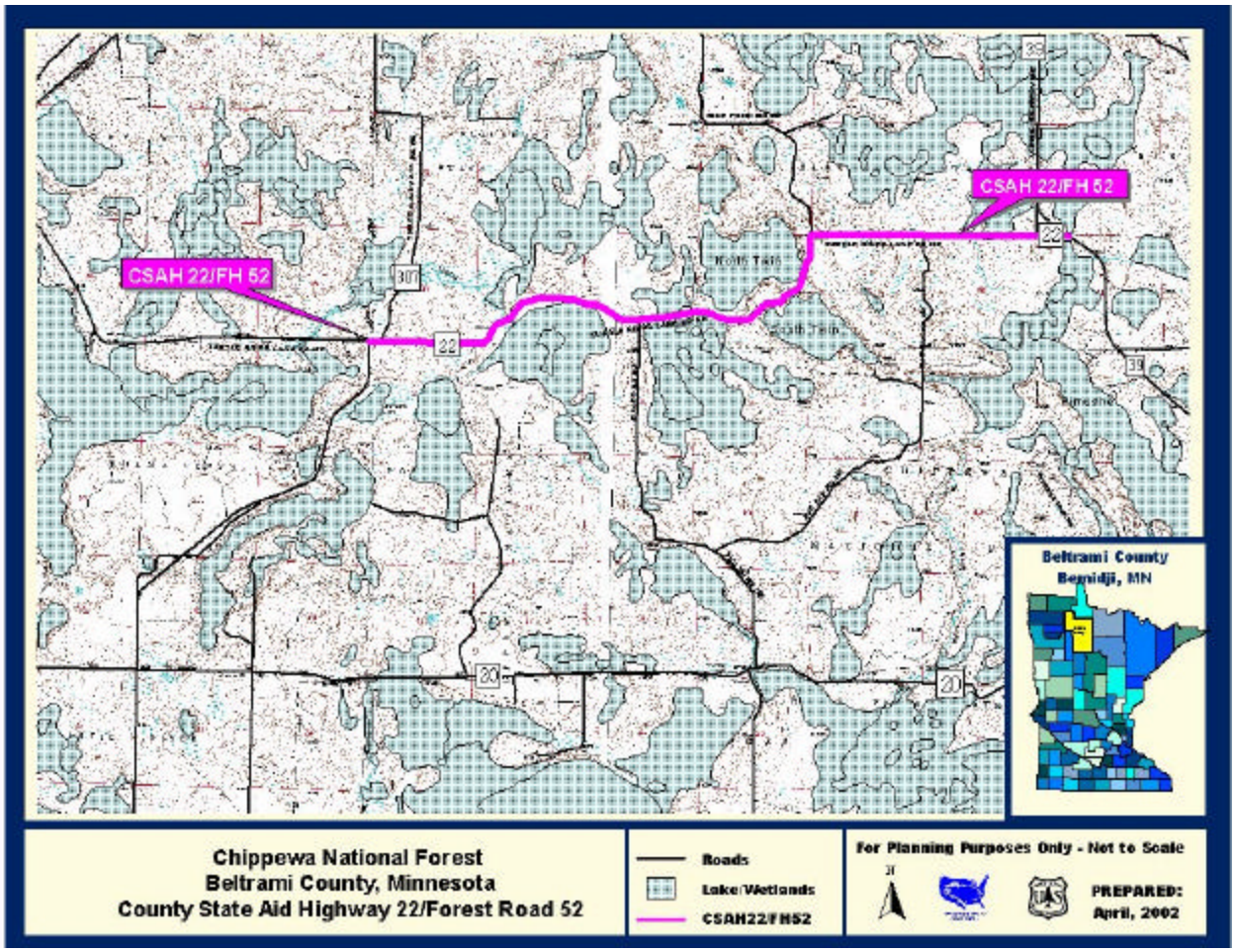
## I. Purpose and Need For the Action

### A. Project Location

Minnesota Forest Highway 52 (CSAH 22) is located in Beltrami County, in the Headwaters Lakes Region of Minnesota approximately 14 miles North East of Bemidji. Situated in a rural area, the roadway also known as Turtle River Lake Road provides access between CSAH 27 and CSAH 39. This peaceful area is comprised of mixed hardwood forest, open lake views, and marshes. According to local records, the road was originally graded in about 1930 and was last surfaced in 1955. The route passes through a rural area within the boundaries of the Chippewa National Forest, the Blackduck State Forest and Buena Vista State Forest. The majority of the land adjoining the route is publicly owned.

**Project Location Map**



## B. Description of Proposed Action

The FHWA proposes to make operational and rehabilitation improvements to Turtle River Lake Rd., CSAH 22. This would include reconstructing and paving the existing gravel roadway, essentially on its existing alignment with only minor areas of realignment. These repairs and improvements would be implemented to improve the riding surface, adjust the roadway's substandard lane width, correct drainage and geometric deficiencies, improve driver safety, and provide for future transportation requirements.

## C. Need for Proposed Action

The purpose is twofold. The first is to improve the overall condition of the roadway in order to make the road safer for the growing traffic volume, while minimizing impacts to the surrounding natural and cultural resources. The second is to upgrade the load carrying capacity of the roadway, so it can withstand heavier loads associated with current hauling levels, without diminishing the existing character of the roadway.

The current average daily traffic (ADT) on CSAH 22 is approximately 294 vehicles per day; however, within the next 20 years, the ADT is projected to reach approximately 500 vehicles per day at an approximate growth of 70% over the next 20 years or 2.7% per year. The existing roadway does not meet current Mn/DOT roadway design and safety standards for natural preservation routes for designated national highways within national forests, particularly at some of the roadway intersections and along curves. CSAH 22 is frequently utilized by logging trucks, school buses, and other large vehicles. This use is expected to increase in the future. In addition, the existing gravel roadway is in fair to poor condition resulting primarily from drainage problems throughout. These drainage problems have resulted in numerous potholes, wash boarding, evidence of rutting, areas of ponding water, exposed corduroy (logs) in the roadbed where it crosses wetlands, and a soft roadbed during and after rain events.

The proposed road improvements are needed to improve the riding surface, adjust the roadway's substandard lane width, correct drainage and geometric deficiencies, improve driver safety, and provide for future transportation needs. The project study area for the proposed roadway improvements along CSAH 22 is comprised of a 200-foot corridor or 100 feet (30.5 meters) from the centerline of the existing gravel road or within the limits of construction of the proposed improvements.

D. **Photos of Existing Conditions**

**Picture 1: Typical view of the Gravel Roadway, West of Proposed Project**

**Picture 2: Low Density Residential Development within the corridor**

**Picture 3: Existing retaining wall along the previously widened and improved section of the roadway**

## E. Decisions to be Made

The National Environmental Policy Act of 1969 (NEPA) requires consideration of the environmental effects of proposed Federal actions. This Environmental Assessment (EA) provides the required environmental, socioeconomic analysis for the proposed work. As part of the planning and analysis, this EA has been prepared to evaluate alternatives and options for accomplishing this work with the least impact to Forest resources and Forest visitors. The Eastern Federal Lands Highway Division of the Federal Highway Administration has prepared this EA in cooperation with the U. S. Forest Service.

The Memorandum of Understanding (MOU) between the Federal Highway Administration (FHWA) and U.S. Department of Agriculture (USDA) Forest Service, describes the procedures regarding the appropriation and transfer of National Forest System Lands for highway purposes. In Section III C it states:

> "In accordance with 23 CFR Part 771, 40 CFR 1501.6, and 1501.5(b), (c), and (e), it will be the responsibility of the FHWA to comply with the National Environmental Policy Act (NEPA) and other legal requirements in arriving at its determination that the lands are necessary for the project, and the FS will act as a cooperating agency or in limited situations as a joint lead agency in the development of any required NEPA document. The FHWA and the FS will coordinate on the determination of the appropriate environmental analysis."

The FHWA intends to explore alternatives for making improvements to CSAH 22 without diminishing the scenic and rural appearance, the character of the roadway, or existing natural and cultural resources. After the alternatives have been fully evaluated and the public has had an opportunity to review and provide comment on the proposed action, the FHWA will issue a decision on how we intend to proceed.

Coordination with the US Fish and Wildlife Service (USFWS) and the Minnesota State Historic Preservation Officer (SHPO) must be complete before a decision is made.

## F. Scoping and Issues

Issues and concerns related to roadway rehabilitation and construction have been identified by the MN DOT, the Beltrami County Highway Department, the Forest Service, State and other Federal agencies, and through similar FHWA road projects. These issues are specific to cultural resources, water quality, vegetation and special status species (threatened, endangered, species of concern, and designated critical habitats).

## G. Issues Evaluated in Detail

Specific impact topics were developed to address potential natural, cultural, and social impacts that might result from the construction. These topics are derived from the issues identified above and address federal laws, regulations and orders, Chippewa National Forest management documents, and the FHWA's knowledge of limited or easily impacted resources. They are used to focus the information presented and discussed in the affected environment and environmental consequences sections. A brief rationale for the selection of each impact topic is given below.

### 1. Special Status Species

Section 7 of the Endangered Species Act directs all Federal agencies to use their authority in furtherance of the purposes of the Act by carrying out programs for the conservation of rare, threatened, and endangered species. Federal agencies are required to consult with the U. S. Fish and Wildlife Service (FWS) to ensure that any actions authorized, funded, and/or carried out by the agency does not jeopardize the continued existence of any listed species or critical habitat. Protection and preservation of special status species are of critical importance and will be discussed as part of this analysis.

### 2. Water Quality

FHWA policies require protection of water quality consistent with the Clean Water Act. Since the proposed action involves work in or adjacent to lakes and streams, it has the potential to impact water quality. This issue will be discussed further in the document.

### 3. Wetlands

Executive Order 11990 (Protection of Wetlands) requires an examination of impacts to wetlands. Using vegetation, soils, and hydrology as evidence of wetland characteristics, the It has been determined that wetlands are present within the proposed project limits. This issue will be discussed

further in the document.

4. **Cultural Resources**

The National Historic Preservation Act of 1966 and the National Environmental Policy Act of 1969 (NEPA) require Federal agencies to consider the effects of their proposed actions on cultural resources. The proposed project has the potential to affect prehistoric and historic archeological resources, and features of the areas cultural landscape. Protection and preservation of cultural resources are of critical importance and will be discussed as part of this analysis.

The FHWA and the Beltrami County Highway Department, in consultation with the Minnesota State Historic Preservation Officer, have determined that cultural resources meeting the criteria of eligibility for the National Register of Historic Places are present along the route. In addition, the setting of the Chippewa National Forest is managed to ensure that visitors are afforded a serene and pleasant travel experience, highlighted by the natural rural landscapes characteristic of the area. Perpetuation of these aesthetic characteristics of the cultural landscape is an important design consideration of the current project. Therefore, in accordance with 36 CFR 800, an assessment is required of the effect that construction would have on the area.

H. **Definitions**

1. Temporary impacts - Impacts anticipated occurring during construction only. Upon completion of the construction activities, conditions are likely to return to those that existed prior to construction.

2. Short-term impacts - Impacts that may extend past the construction period, but are not anticipated lasting more than a couple years.

3. Long-term impacts - Impacts that may extend past the construction period, and are anticipated lasting more than a couple of years.

4. Negligible - Little or no impact (not measurable).

5. Minor - Changes or disruptions may occur, but does not result in a substantial resource impact.

6. Major - Easily defined and measurable. Results in a substantial resource impact.

## I. Permits

The U.S. Army Corps of Engineers has regulated activities in the nation=s waters since 1890. Until the 1960's, the primary purpose of the regulatory program was to protect navigation. Since then, as a result of laws and court decisions, the program has been broadened to encompass the full public interest for both the protection and utilization of water resources. Regulatory authority and responsibilities of the Corps of Engineers includes Section 404 of the Clean Water Act (33 USC 1344). This includes regulation of the discharge of dredged material into waters of the United States, including both navigable waters and adjacent wetlands. In addition, Section 10 of the Rivers and Harbors Act of 1899 (33 USC 403) is regulated by the Corps of Engineers for activities in or affecting navigable waters. Since the actions proposed may impact waters that are considered waters of the United States, the proposed action is subject to U.S. Army Corps of Engineers review under the Section 404 regulatory program.

Any proposed improvements would have to meet the requirements set forth in Minnesota's Wetland Conservation Act as administered by the Minnesota Department of Natural Resources, Minnesota Board of Water and Soil Resources, and/or any applicable Soil and Water Conservation Districts.

The U.S. Fish and Wildlife Service (FWS) will be consulted regarding the presence of federally listed threatened or endangered species within the study area. If any such species were known to inhabit the area, appropriate measures would be developed to protect the species from harm.

## II. Alternatives

### A. Description of Alternatives

The following is a description of the proposed alternatives to improve approximately 6.9 miles of roadway along CSAH 22 between CSAH 27 and CSAH 39 in Beltrami County, Minnesota. The Average Daily Traffic (ADT) for 2002 is approximately 294 vehicles per day, and the projected 2022 ADT is 500 vehicles per day at a 2.7% annual growth rate.

1. No Action Alternative

Under the No Action alternative, no substantial improvements would be performed other than in accordance with routine maintenance operations. The roadway surface would remain gravel. The existing safety and capacity concerns would not be addressed.

2. Build Alternatives

2.1 Alternative A - Reconstruct Roadway to Minnesota Minimum Geometric Design Standards for Type I Natural Preservation Routes as described in table 2.1.1. This alternative would be implemented along with the North Twin Lakes Area Treatment in Section 2.4.

**Table 2.1.1**

| Surface Type | Design Speed | Lane Width | Shoulder Width | Inslope | Recovery Area | Design Strength | Bridge to Remain |
|---|---|---|---|---|---|---|---|
| | mph | feet | Feet (a) | Rise:run (b) | feet (c) | tons | feet (d) |
| Aggregate | 30 | 11 | 1 | 1:3 | 3 | | 22 |
| Paved | 30 | 11 | 2 | 1:3 | 10 | 9 | 22 |

(a) If the route has scenic vis tas that will require parking vehicles along the shoulder, widening the shoulder at these locations is acceptable. The designer will provide a four-foot paved shoulder if the route is a popular bicycle route.

(b) Applies to slope within recovery areas only. Other design features, such as guardrail or retaining walls, should be considered in particularly sensitive areas in lieu of reconstructing the inslope in accordance with part 8820.4060.

(c) Obstacle-free area (measured from edge of traffic lane).

(d) Inventory rating of HS 15 is required. A bridge narrower than these widths may remain in place if the bridge is not deficient structurally or hydraulically.

Ditch depths and widths must be kept to the minimum required to function hydraulically and to provide for adequate snow storage when a standard ditch would negatively impact the surroundings.

The designer shall specify in the plan and special provisions that the clearing width is to be kept to the absolute minimum. In sensitive areas, the normal clearance allowed to a contractor for working room is zero unless required for special conditions.

Curb and gutter may be used in lieu of a ditch section under the paved option. The lane width, shoulder width, and recovery area must be maintained.

For designated national forest highways within national forests, and state park access roads within state parks, this subpart applies only where the projected ADT is less than 100, unless the route has been designated as a natural preservation route.

Under this Alternative, the existing gravel roadway would be widened to accommodate two 11-foot wide lanes with 2-foot wide shoulders. The travel lanes would be paved with asphalt and striped accordingly. Minor modifications to the roadway horizontal and vertical alignment would be made in order to meet current roadway safety and design standards.

Primary items of work would include paving, adding new culverts or other drainage improvements, straightening substandard curves, improving slopes and elevations, constructing new guardrails and retaining walls, upgrading signs, striping, and clearing and grubbing necessary to improve this road to meet current standards.

The proposed right-of-way limits would be approximately 67 feet in width along the entire corridor. This option provides for 2' asphalt paved shoulders or aggregate shoulders.

Preliminary quantity computations estimate that the project as proposed would involve approximately 14.2 acres of disturbance. The breakdown of Private, State, and Federal land can be found in the following table.

**Table 2.1.2**

| **Disturbed Acres** | | | |
|---|---|---|---|
| **Private** | **State** | **Federal** | **Total** |
| 5.1 acres | 3.8 acres | 5.3 acres | 14.2 acres |

The following image contains a typical representation of the Cross Sections proposed for this Alternative:

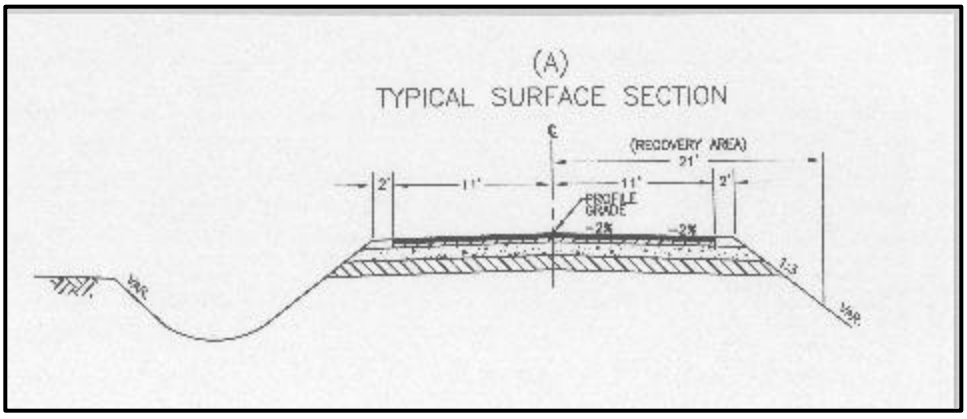



**Figure 2.1.1: Typical Section of Proposed Alternative A**

2.2 Alternative B – Pave and Reconstruct Roadway to Minnesota Minimum Geometric Design Standards for Type III Natural Preservation Routes as described in table 2.2.1. This alternative would be implemented along with the North Twin Lakes Area Treatment in Section 2.4.

**Table 2.2.1**

| Surface Type | Design Speed | Lane Width | Shoulder Width | Inslope | Recovery Area | Design Strength | Bridge to Remain |
|---|---|---|---|---|---|---|---|
| | mph | feet | feet (a) | Rise:run (b) | feet (c) | tons | feet (d) |
| Aggregate | 30 | 12 | 3 | 1:4 | 10 | -- | 24 |
| Paved (e) | 30 | 12 | 4 | 1:4 | 10 | 9 | 24 |
| Paved | 40 | 12 | 4 | 1:4 | 15 | 9 | 24 |

(a) The designer will provide a six-foot paved shoulder if the route is a popular bicycle route. If the route has scenic vistas that will require parking vehicles along the shoulder, widening the shoulder at these locations is acceptable.

(b) Applies to slope within recovery areas only. Other design features, such as guardrail or retaining walls, should be considered in particularly sensitive areas in lieu of reconstructing the inslope in accordance with part 8820.4060. Approach sideslopes must be 1:4 or flatter within the recovery area when the ADT exceeds 400.

(c) Obstacle-free area (measured from edge of traffic lane).

(d) Inventory rating of HS 15 is required. A bridge narrower than these widths may remain in place if the bridge does not qualify for federal-aid bridge funds.

(e) This standard may be applied only when the project is located in a subdivided area or an area in a detailed development process, and physical restraints are present that prevent reasonable application of another level of these standards.

Ditch depths and widths must be kept to the minimum required to function hydraulically, to be traversable if within the recovery area, and to provide for adequate snow storage when a standard ditch would negatively affect the surroundings.

The designer shall specify in the plan and special provisions that the clearing width is to be kept to a minimum. In sensitive areas, the normal clearance allowed to a contractor for working room is zero unless required for special conditions.

Under this Alternative, the existing gravel roadway would be widened to accommodate two 12-foot wide lanes with 4-foot wide shoulders. The travel lanes would be paved with asphalt and striped accordingly. Minor modifications to the roadway horizontal and vertical alignment would be made in order to meet current roadway safety and design standards. Shallower ditches, steeper back slopes, and steeper recovery areas would be used to reduce the overall footprint and mitigate impacts on vegetation and wetlands.

Primary items of work would include paving, adding new culverts or other drainage improvements, straightening substandard curves, improving slopes and elevations, constructing new guardrails and retaining walls, upgrading signs, striping, and clearing and grubbing necessary to improve this road to meet current standards. This option provides for 4’ asphalt paved shoulders or 3’ aggregate shoulders.

The proposed right-of-way limits would be approximately 100 feet in width along the entire corridor.

Preliminary quantity computations estimate that the project as proposed would involve approximately 23.9 acres of disturbance. The breakdown of Private, State, and Federal land can be found in the following table.

**Table 2.2.2**

| Disturbed Acres | | | |
|---|---|---|---|
| **Private** | **State** | **Federal** | **Total** |
| 8.6 acres | 6.4 acres | 8.9 acres | 23.9 acres |

The following image contains a typical representation of the Cross Sections proposed for this Alternative.

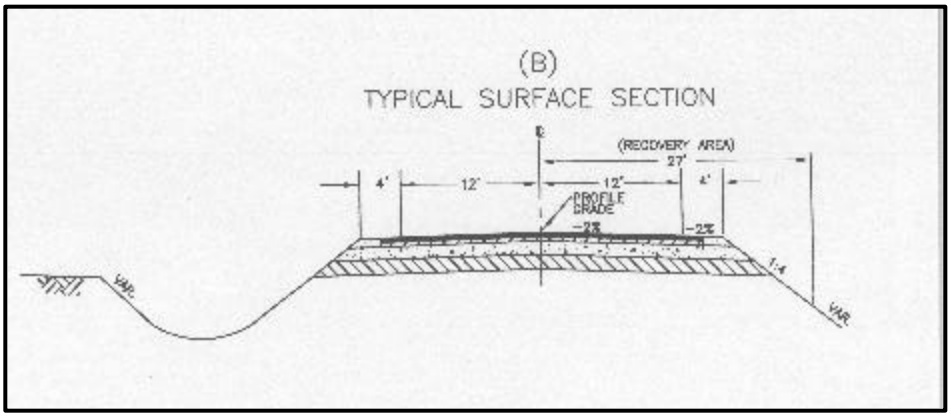



**Figure 2.2.1: Typical Section of Proposed Alternative B**

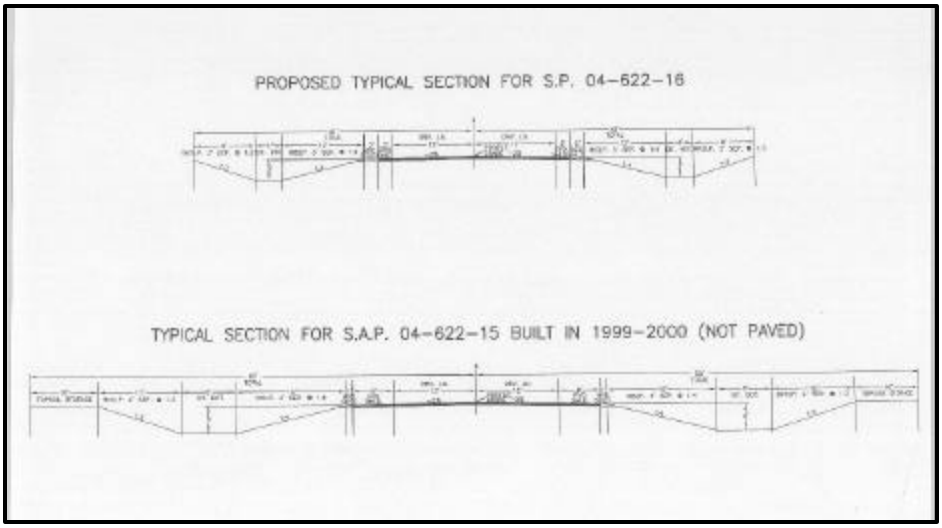



**Figure 2.2.2: Typical Section of Proposed Alternative B Compared with Existing Improved Section of CSAH-22.**

2.3 Alternative C - Reconstruct Roadway to a modified Minnesota Minimum Geometric Design Standards for Type I Natural Preservation Routes as described in table 2.3.1. This alternative would be implemented along with the North Twin Lakes Area Treatment in Section 2.4.

**Table 2.3.1**

| Surface Type | Design Speed mph | Lane Width feet | Shoulder Width feet | Inslope Rise:run (a) | Recovery Area feet (b) | Design Strength tons |
|---|---|---|---|---|---|---|
| Paved | 30 | 12 | 2 | 1:3 | 10 | 9 |

(a) Applies to slope within recovery areas only. Other design features, such as guardrail or retaining walls, should be considered in particularly sensitive areas in lieu of reconstructing the inslope in accordance with part 8820.4060.
(b) Obstacle-free area (measured from edge of traffic lane).

All design standards would be similar to Alternative A except as noted above.

This alternative was developed to serve as an intermediate design between the Type I and III alternatives proposed earlier. Under this Alternative, the existing gravel roadway would be widened to accommodate two 12-foot wide lanes with 2-foot wide shoulders. The travel lanes would be paved with asphalt and striped accordingly. Minor modifications to the roadway horizontal and vertical alignment would be made in order to meet current roadway safety and design standards.

Primary items of work would include widening, excavation, aggregate base, paving, clearing and grubbing, removing trees, brush or boulders, adding new culverts or other drainage improvements, straightening a substandard curve, improving slopes and elevations, constructing new guardrails and retaining walls, upgrading signs, striping, and other work.

The proposed right-of-way limits would be approximately 67 feet in width along the entire corridor and would have the option of the following shoulder treatment based on the pedestrian use as shown in table 2.2:

a. Asphalt Paved Shoulders
b. Aggregate Topsoil Shoulders

Preliminary quantity computations estimate that the project as proposed would involve approximately 15.8 acres of disturbance. The breakdown of Private, State, and Federal land can be found in the following table.

**Table 2.3.2**

| Disturbed Acres | | | |
|---|---|---|---|
| **Private** | **State** | **Federal** | **Total** |
| 5.7 acres | 4.3 acres | 5.8 acres | 15.8 acres |

The following image contains a typical representation of the Cross Section proposed for this Alternative.

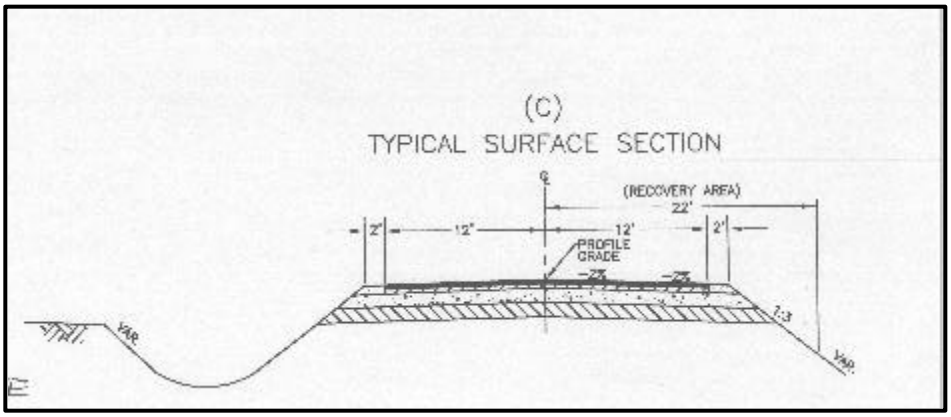



**Figure 2.3: Typical Section of Alternative C**

2.4 North Twin Lakes Area Treatment – Is a site-specific variation to the North Twin Lake segment of the project to be applied to each of the Build Alternatives (A-C). The Geometric Design Standards for this segment are described in the table below:

**Table 2.4**

| Surface Type | Design Speed mph | Lane Width feet | Shoulder Width feet | Inslope Rise:run (a) | Recovery Area feet (b) | Design Strength tons |
|---|---|---|---|---|---|---|
| Paved | 30 | 12 | 6 | 1:3 | 4 | 9 |

(a) Applies to slope within recovery areas only. Other design features, such as guardrail or retaining walls, should be considered in particularly sensitive areas in lieu of reconstructing the inslope in accordance with part 8820.4060.
(b) Obstacle-free area (measured from edge of traffic lane).

All design standards would be similar to Alternative A except as noted above.

These alternatives (A-C) were developed to serve as an intermediate design to limit the impact on the North Twin Lake section of the project. Under this Alternative, the existing gravel roadway would be widened to accommodate two 12-foot wide lanes with 6-foot wide shoulders. The travel lanes would be paved with asphalt and striped accordingly. Minor modifications to the roadway horizontal and vertical alignment would be made in order to meet current roadway safety and design standards. A retaining wall would be incorporated to be as unobtrusive as possible.

Additional items of work would include widening, excavation, aggregate base, clearing and grubbing, removing trees, brush or boulders, adding new culverts or other drainage improvements, straightening substandard curves, improving slopes and elevations, constructing new guardrails and retaining walls, upgrading signs, striping, and other work.

The proposed right-of-way limits would be approximately 44 feet in width along the entire corridor and would have the option of the following shoulder treatment based on the pedestrian use:

c. Asphalt Paved Shoulders
d. Aggregate Topsoil Shoulders

The following contains alternatives for a typical representation of the Cross Sections proposed for this Alternative.

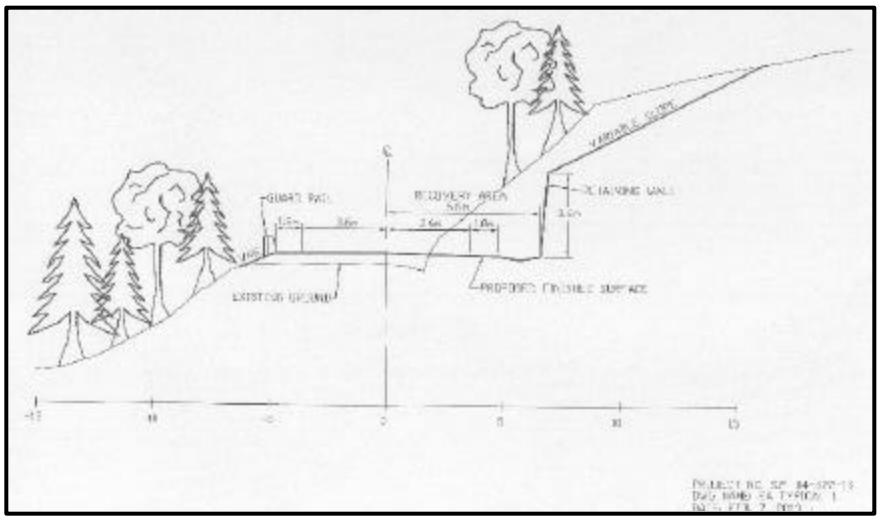



**Figure 2.4.1: North Twin lakes Area Treatment A**

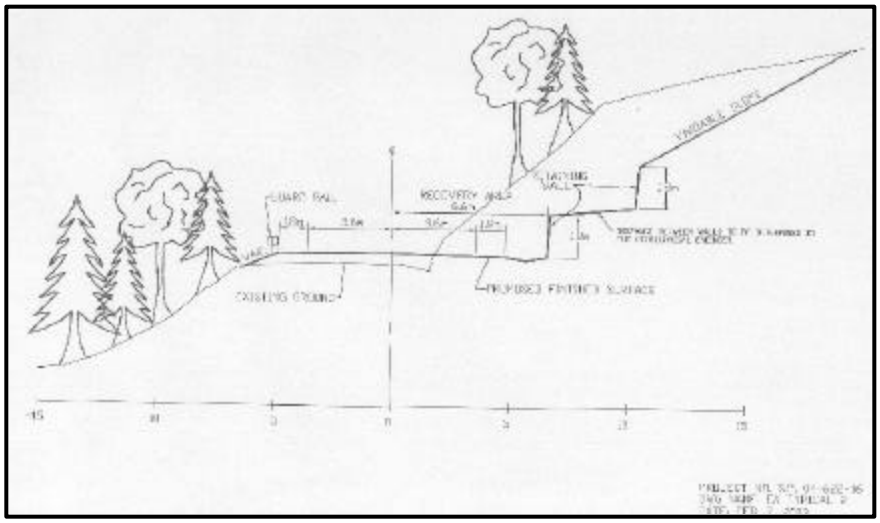



**Figure 2.4.2: North Twin lakes Area Treatment B**

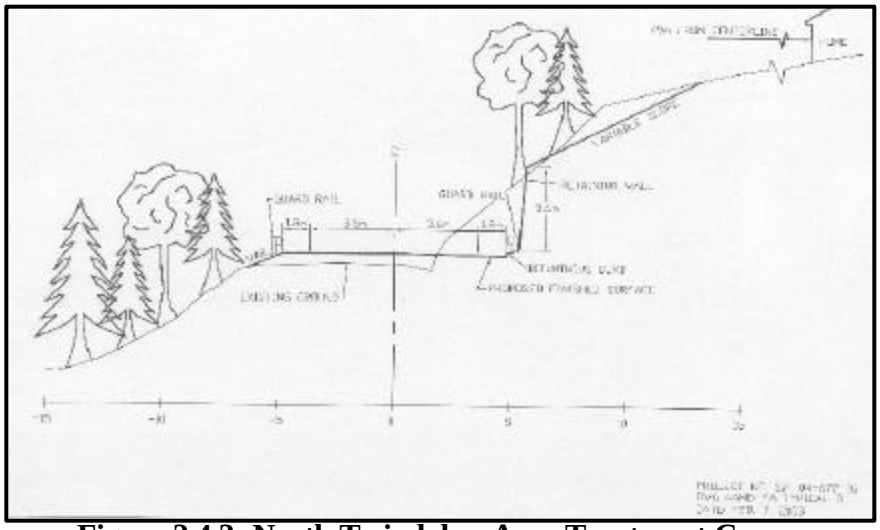



**Figure 2.4.3: North Twin lakes Area Treatment C**

B. **Comparison of Alternatives**

The following chart summarizes and compares the likely results of implementing the No Action Alternative and the Build Alternatives as they relate to the environment.

| Factor | No Action Alternative | Alternative A | Alternative B | Alternative C |
|---|---|---|---|---|
| Design Standard | No change from existing. | NPR Type I | NPR Type III | NPR Type I Modified |
| Surface Type | Gravel | Asphalt Pavement | Asphalt Pavement | Asphalt Pavement |
| Roadway Width | Averages 22 feet Total width | 11- foot travel lane | 12 - foot travel lane | 12 - foot travel lane |
| Shoulder Width | No designated shoulder | 2 feet each side | 4 feet each side | 2 feet each side |
| Approximate Avg. Clearing Limits | No change from existing | 17 feet | 30 feet | 17 feet |
| Approximate area of disturbance | No change from existing | 14.2 acres | 23.9 acres | 15.8 acres |
| Design Speed | N/A | 30 mph | 40 mph | 30 mph |
| Posted Speed Limit | Speed limit not posted. | Speed limit not posted. | Speed limit not posted. | Speed limit not posted |
| Recovery Area | No change from existing | 10 feet | 15 feet | 10 feet |
| Right-of-Way Limits | No additional right-of-way would be required. | Right-of-Way would be obtained to provide for a 67-foot wide corridor. | Right-of-Way would be obtained to provide for a 100-foot wide corridor. | Right-of-Way would be obtained to provide for a 67-foot wide corridor. |
| Transportatio | No change from existing | Would not meet current Mn/DOT design and safety standards. | Would meet current Mn/DOT design and safety standards. | Would not meet current Mn/DOT design and safety standards. |
| Culvert Replacement | No change from existing | Approximately 30 | Approximately 30 | Approximately 30 |
| Estimated Cost of Construction | $0 | $249,701.00/Mile | $304,851.00/Mile | $267,029.00/Mile |
| Road Character | No change from existing | Would not alter the scenic character of the existing road. | Would not alter the scenic character of the existing road. | Would not alter the scenic character of the existing road. |
| Impact to Vegetation and Lakeshore East of North Twin Lake | Minor sediment from roadbed | No sediment, Clearing limits don't impact lake | No sediment, Road designed to avoid lakeshore | No sediment, Clearing limits don't impact lake |

## C. Alternatives Considered but Dismissed

1. *Pave Roadway and Shoulders at Existing Width on Existing Alignment.*

Essentially, this alternative consisted of minor regrading and placement of aggregate base and asphalt pavement on the existing roadway alignment and footprint. Basic drainage improvements would be performed including ditch regrading, cleaning of culverts, and some culvert replacement at existing lengths. Variances in the width of the travel lanes would be likely to occur since the existing roadway cross section is not uniform over the entire length of the road. No corrections would be made to improve safety concerns associated with geometrical deficiencies such as vertical and horizontal curves, or substandard lane widths. No major clearing and grubbing work would be performed to establish an adequate clear zone or recovery area. New guardrail and additional signage may be installed at select locations where warranted.

This alternative was removed from further consideration because it did not meet any recognized standard for construction and did not address any of the safety concerns associated with the roadway.

2. *Pave and Reconstruct roadway to NPS Park Road Standards of two 9-foot lanes with 2-foot shoulders on each side.*

Minimum Roadway Cross-Section Requirements

| Average Daily Traffic (ADT) | Number of Lanes | Lane Width (feet)[a] | Shoulder Width (feet/side) | Lane Surface Type(s) |
|---|---|---|---|---|
| <50 | 2 | 8 | 1 | Dirt/Gravel/Paved |
| 50-200 | 2 | 9 | 1 | Dirt/Gravel/Paved |
| 200-400 | 2 | 9 | 2 | Gravel/Paved |
| 400-1000 | 2 | 10 | 3 | Paved |
| 1000-4000 | 2 | 11 | 3 | Paved |
| 4000-8000 | 2 | 11 | 4 | Paved |
| >8000 | 4 | 12 | 8[b] | Paved |

a. Widening of traffic lanes should be provided on the inside of sharp curves. Where tour buses are allowed or the proportion of recreational vehicles exceeds 5% of the design volume, an additional one-foot of lane width shall be considered, not to exceed 12 feet.

b. Would only apply, as appropriate, to urban parkways.

This alternative was eliminated from further consideration because it would not meet Minnesota State Standards and would not accommodate safe use of the roadway by larger vehicles such as logging trucks, school buses, and recreational vehicles, which frequently use the road. Most park roads do not experience this type of traffic on a routine basis and generally

traffic operates at lower speeds on forest highways.

3. *Pave and Reconstruct Roadway to Minnesota Minimum Geometric Design Standards for Type III Natural Preservation Routes with Optional Bicycle Route (Two 12-foot lanes with 6-foot paved shoulders).*

   This alternative is essentially the same as Alternative B, which was retained for further analysis, however it adds the option of constructing an adjacent 6-foot wide paved shoulder on each side of the roadway. This alternative was removed from further consideration because: 1) there was not a demonstrated need or desire by the public to have a bicycle lane, 2) the low traffic volume on the road lends itself to shared road use, 3) the character of the roadway would be changed substantially, and 4) the extra widening required to accommodate the bicycle lanes would result in greater environmental impacts than any other alternatives being considered.

4. *Rehabilitate Existing Gravel Roadway*

   This alternative would include regrading the gravel roadway on its existing horizontal alignment, making minor vertical alignment adjustments to improve sight distance, adding additional aggregate base material to fill potholes, performing minor drainage improvements, and installing new signs where applicable. The riding surface would remain gravel

   This alternative was removed from further consideration due to the (1) overwhelming public comments expressing a desire for a hard surfaced roadway, and (2) the County Highway Department's desire to reduce annual maintenance costs.

5. Shoulder Options

   a. Gravel shoulders

      Gravel shoulders were removed from further consideration because they are difficult to maintain and present a safety hazard when gravel washes onto the paved riding surface. The primary structural benefits associated with a gravel shoulder are similar to those of a stabilized aggregate topsoil shoulder, which was retained for further analysis.

   b. Seeded shoulders

      Seeded shoulders were removed from further consideration because they do not have the structural integrity to withstand occasional parked vehicles. Since this is a scenic route, it is not unusual for drivers to pull-off onto the side of the road for short

periods of time. Any aesthetic or vegetative benefits are similar to those of a stabilized aggregate topsoil shoulder, which was retained for further analysis.

## D. Mitigation Measures

Site-specific mitigation measures listed below would be employed to reduce potential adverse impacts to a minimal level.

1. Endangered Species and Critical Habitats

The following proposed recommendations focus on minimizing the potential for adverse impacts:

- If any bald eagle nests are identified during implementation of the proposed roadway improvement, the FWS and the Forest Service will be notified and further construction activities will adhere to the Chippewa National Forest Land and Resources Management Plan, which has specific guidance for projects that occur within the vicinity of bald eagle nests. Note that neither the management plan nor the Northern States Bald Eagle Recovery Plan identifies standards, guidelines, or restrictions for activities occurring more than 1,320 feet (1/4 mile) from an eagle nest.

2. Species of Concern and Regional Forester Sensitive Species

The following proposed recommendations focus on minimizing the potential for adverse impacts. The recommendations would be implemented to reduce minor impacts on other species and natural communities:

- Appropriate habitat may exist for the Vertee's Caddisfly (Ceraclea vertreesi) in Turtle River and North and South Twin Lakes. Selection of design would be implemented to avoid the lake and vegetation on the shore on the southeast corner of North Twin Lake. No construction activities would occur in open water or in the streams and rivers within the project study area.
- Appropriate habitat exists for the Mingan Moonwort approximately 30 feet south of the proposed highway centerline benchmark 22+375. Selection of design would be implemented to avoid this area.
- Provide future construction schedule to the public to provide local citizens an opportunity to relocate species of showy lady's slipper orchids (*Cypripedium reginae*) to areas that will not be disturbed by the proposed roadway improvement project.
- A revised road design or transplantation would be required if additional SC or RFSS species are found during construction or follow-up surveys.

3. Wetlands

Protection of wetlands from other damage can be accomplished through mitigation measurements including:

- Installation of sediment basins prior to or concurrent with soil disturbing activities.
- Use shallower ditches and steeper back slopes to minimize wetland impacts.
- Use of silt fence and straw bale barriers.
- Assuring that culvert placement in streams and wetlands maintain or restore natural flow patterns and allow passage of aquatic species.
- Revegetating areas abutting wetlands and streams, inslopes, backslopes, and ditches that lead to streams and wetlands as soon as feasible.
- Disposing of excess dredged material or debris from the reconstruction project in upland areas.
- Install wide box-culverts in locations where the roadway right-of-way bisects perennial wetland systems (i.e. semi-permanently flooded and permanently flooded) for improved wetland drainage, improved fish passage, reduced mortality of Blanding's turtle, four-toed salamander, and other migrating aquatic and terrestrial wildlife. Care should be taken in adjusting proper invert elevations for wider culverts, as to maintain or restore pre-road hydrology and minimize impacts to the hydrologic regimes of upstream and downstream wetland systems.
- The Forest Service has prepared and submitted a preliminary landscape plan with suggestions for enhancing the visual conditions of some of the treated slopes.
- Need to retain the riparian vegetation on North Twin Lake shoreline at the southeast corner where roadwork is within 20 to 30 feet of the lake. This may be achieved by either constructing a retaining wall or by moving the road to the east.
- In the event of tree removal at the North Twin Lake site, large woody debris will be added to the site for fisheries habitat.
- If cedar wetlands are impacted by the road reconstruction, narrower clearing, filling limits and/or retaining walls will be used to minimize impacts.

4. Air, Noise, and Viewshed

- It is recommended that any proposed roadway improvements include maintaining or re-establishing the vegetative buffers that currently exist between the roadway and the neighboring residential properties. This may be developed in conjunction with an appropriate landscaping plan for the roadway.
- Minimize the width of the disturbance for the road construction to

decrease the removal of large coniferous and deciduous trees adjacent to open water that could serve as roosts and nesting trees for the bald eagle and the red-shouldered hawk. Although engineering constraints may limit the ability to redirect or adjust the right-of-way alignment around large trees, it is recommended that the construction access roads and staging areas be located away from large trees and open water, whenever possible. Further, decadent trees and snags should be avoided where possible, as they provide potential habitat for black-backed woodpeckers. It is recommended further that construction staging areas be located in areas of existing disturbed or low-quality vegetation (such as grassed areas or previously-cleared or managed areas), and avoid encroachment into wetlands or upland forests.

5. Vegetation

- Implement control measures for invasive plant species existing within roadside wetlands during roadway construction. Observations for invasive species should be performed during construction and control measures should be implemented to remove or control the spread of giant reed (*Phragmites australis*), reed canary grass (*Phalaris arundinacea*), and purple loosestrife (*Lythrum salicaria*). It is recommended that invasive plant material be removed along existing road edges and swales immediately prior to or during roadway construction.
- Install guardrails in areas where the proposed roadway improvement encounters steep slopes rather than clearing and re-grading vegetated slopes.
- Re-vegetate disturbed areas with naturally occurring vegetation of similar composition and structure as the surrounding vegetation. The Forest Service has prepared and submitted a preliminary landscape plan for implementation during construction.
- Mark proposed limits of disturbance for constructing the roadway improvements with tape or flagging to reduce the probability of inadvertent encroachment into intact native vegetation by construction machinery and personnel.
- Use shallower ditches and steeper backs slopes to minimize vegetation clearing and mitigate impacts on vegetation and wetlands.

## III. Affected Environment

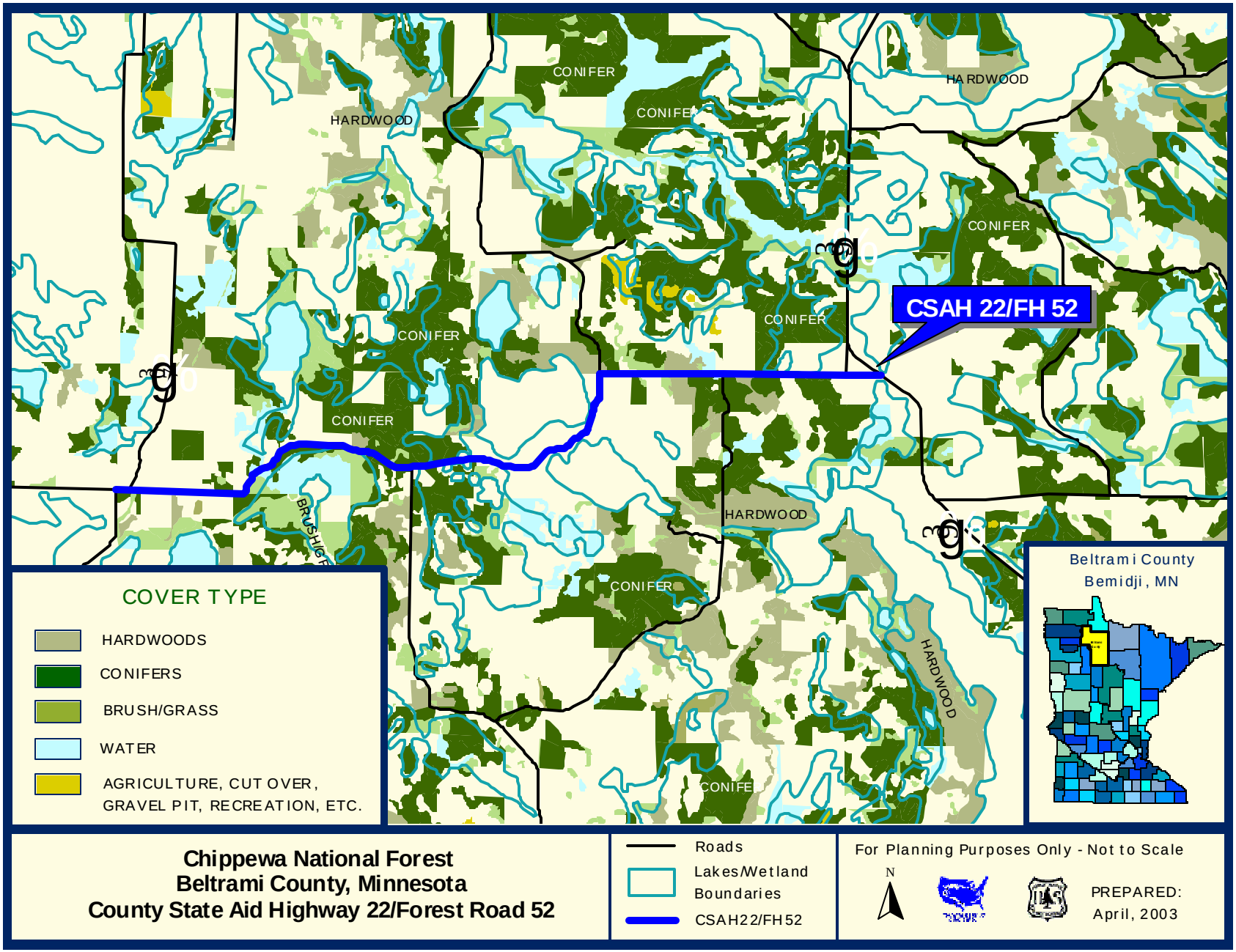
The project area is located in the Headwaters Lakes Region of Minnesota. This region is quite varied in its physical landscape. Four known ice sheets affected this area, and residues of these ice advances are still present in this area of Minnesota today (Ojakangas and Matsch 1982). The area is dotted by lakes, marshes, and rivers, which are the remnants of glacial advances in the past. This area lies in what is known as the "Bemidji Area" physiographic subdivision (Wright 1972: 570-571). This unique physical environment is largely due to the region's glacial history, although many changes have occurred since the final advance of the Wisconsin glaciation approximately 12,000 years ago. The main outwash area is now a broad plain from Bagley to the Lake Winnibigoshish, including Bemidji. The Mississippi River follows the general location of this plain, and is the main watercourse in central Minnesota.

The Chippewa was the first National Forest established east of the Mississippi. The Forest boundary encompasses 1.6 million acres, of which the USDA Forest Service manages over 666,325 acres. Aspen, birch, pines, balsam fir and maples blanket the uplands. Water is abundant, with over 1300 lakes, 923 miles of rivers and streams, and 400,000 acres of wetlands.

### A. Natural Resources

#### 1. Vegetation

The proposed study area consists of approximately 6.9 miles along an existing gravel road that transects various natural habitats and second-growth forest systems within the Chippewa National Forest. Actively managed landscape types such as residential yards and public water access to North Twin Lake also occurs within the study area. The vegetation present along the edges of CSAH 22 within 50 feet of the centerline of the existing gravel road or within the limits of construction of the proposed roadway improvements, consists primarily of upland woodland and forest systems (sugar maple, basswood, aspen, and balsam fir) in various stages of natural succession, wetland grasses and grass-like plants (sedges and rushes), wetland forest systems (white cedar, black spruce, tamarack, and black ash), and shrub-dominated wetlands (red alder, bog birch, and willow).


CONIFER
HARDWOOD
CONIFER
HARDWOOD
CONIFER
CSAH 22/FH 52
CONIFER
CONIFER
CONIFER
HARDWOOD
CONIFER
HARDWOOD
COVER TYPE
HARDWOODS
CONIFERS
BRUSH/GRASS
WATER
AGRICULTURE, CUT OVER, GRAVEL PIT, RECREATION, ETC.
Beltrami County
Bemidji, MN
Chippewa National Forest
Beltrami County, Minnesota
County State Aid Highway 22/Forest Road 52
Roads
Lakes/Wetland Boundaries
CSAH22/FH52
For Planning Purposes Only - Not to Scale
N
PREPARED:
April, 2003

The study area includes the following principal habitats:

- Ponds and Open Water (lakes and small open-water wetlands)
- Palustrine Emergent Wetlands (sedge meadows, cattail marshes, mixed emergent marshes, bogs, and rich and poor fens)
- Palustrine Scrub-Shrub Wetlands (willow swamps and alder swamps)
- Palustrine Forested Wetlands (tamarack swamps, black spruce swamps, lowland hardwood forests, and black ash swamps)
- Northern Mesic Hardwood Forest (maple/basswood forest and successional aspen/balsam fir woodlands)
- Non-Native Dominated Grasslands (existing roadway clearing and woodland/grassland edge)
- Residential and Commercial Properties (residential and commercial landscapes and maintained utility corridors)

Of particular interest to local residents is the occurrence of pink ladyslipper orchids that have been known to grow along the roadway shoulders.

2. Threatened and Endangered Species

During June of 2002, the study area was surveyed by Tetra Tech EM Inc. to determine the existence of state- and federally listed threatened and endangered species, proposed species, species of concern, and designated and proposed critical habitat. The following table taken from the Biological Assessment (BA) prepared by Tetra Tech EM Inc. describes those that may be found in Beltrami County or the Chippewa National Forest.

## STATE- AND FEDERALLY-LISTED THREATENED AND ENDANGERED SPECIES WITHIN BELTRAMI COUNTY OR THE CHIPPEWA NATIONAL FOREST

| Common Name | Scientific Name | Federal Status | Minnesota Status | Forest Service Status | Suitable Habitat | Habitat |
|---|---|---|---|---|---|---|
| **Reptiles** | | | | | | |
| Common Snapping Turtle | *Chelydra serpentina* | NL | SC | NL | Y | Slow-moving quiet waters with muddy bottoms and dense vegetation; nest is dry sandy uplands |
| Blanding's Turtle | *Emydoidea blandingii* | NL | T | RFSS | Y | Calm, shallow watered marsh areas with soft bottoms with rich aquatic vegetation and sandy uplands for nesting |
| **Amphibians** | | | | | | |
| Four-Toed Salamander | *Hemidactylium scutatum* | NL | SC | RFSS | Y | Adults live under objects or among mosses in swamps, boggy streams, and wet, wooded or open areas near ponds or quiet. Larval habitat are mossy or grassy/sedgy pools |
| ***Fish*** | | | | | | |
| Greater Redhorse | *Moxostorna valenciennesi* | NL | NL | RFSS | Y | Moderate to fast-flowing, medium-sized to large rivers with sand and gravel substrates |
| Pugnose Shiner | *Notropis anogenus* | NL | SC | RFSS | Y | Clear, lakes and streams with bottoms of sand and gravel or marl and abundant submerged aquatic vegetation |
| **Insects** | | | | | | |
| Vertree's Caddisfly | *Ceraclea vertreesi* | NL | SC | RFSS | Y | Medium to large-sized rivers or lakes that are directly connected to a medium or large-sized river |
| **Mussels** | | | | | | |
| Creek Heelsplitter | *Lasmigona compressa* | NL | SC | RFSS | Y | Creeks and the headwaters of small to medium rivers in fine gravel or sand |
| Black Sandshell Mussel | *Ligumia recta* | NL | SC | RFSS | Y | Medium to large rivers in riffles or raceways in gravel or firm sand |
| Fluted-Shell Mussel | *Lasmigona costata* | NL | SC | RFSS | Y | Medium to large rivers in sand, mud or fine gravel in areas with slow to moderate flow |
| **Birds** | | | | | | |
| Bald Eagle | *Haliaeetus leucocephalus* | T | SC | T | Y | Large trees adjacent to riparian areas with fish |
| Red-Shouldered Hawk | *Buteo lineatus* | NL | SC | RFSS | Y | Large tracts of mature, deciduous and mixed riparian forest habitats with a preference for bottomlands and wooded margins near marshes |
| Piping Plover | *Charadrius melodus* | E/T | T | T | N | Local sandy beaches and sparsely vegetated shores and islands. Migrants only; no known nesting occurrences on the Chippewa NF |
| Northern Goshawk | *Accipiter gentiles* | NL | NL | RFSS | Y | Large tracts of mature, closed canopy, deciduous, coniferous and mixed forests with an open understory |
| Leconte's Sparrow | *Ammodramus leconteii* | NL | NL | RFSS | Y | Large sedge-dominated wet meadows |
| Nelson's Sharp-Tailed Sparrow | *Ammodramus nelsoni* | NL | SC | RFSS | Y | Sedge- or grass-dominated we meadows, marshes, and open peatlands, in large tracts of open habitat |
| Black Tern | *Chlidonias niger* | NL | NL | RFSS | N | Nests in marshes and wet meadows with a mixture of emergent vegetation and open water |

| Common Name | Scientific Name | Federal Status | Minnesota Status | Forest Service Status | Suitable Habitat | Habitat |
|---|---|---|---|---|---|---|
| Olive-Sided Flycatcher | *Contopus cooperi* | NL | NL | RFSS | Y | Variety of boreal forests including uplands, lowlands, edges and beaver meadows with a preponderance of standing live or dead large pine, spruce or tamarack trees used for foraging |
| Yellow Rail | *Coturnicops noveboracensis* | NL | SC | RFSS | Y | Sedge meadows and grassy marshes |
| Trumpeter Swan | *Cygnus buccinator* | NL | T | RFSS | N | Small ponds and lakes or bays with extensive beds of cattails, bulrushes, sedges, and/or horsetail |
| Black-Throated Blue Warbler | *Dendroica caerulescens* | NL | NL | RFSS | N | Mature large deciduous trees, especially sugar maple, with a well developed understory of deciduous shrubs in blocks of habitat >1200 acres |
| Bay-Breasted Warbler | *Dendroica castenea* | NL | NL | RFSS | Y | Mid-age to mature spruce forests infested with spruce budworm and tent caterpillars |
| Spruce Grouse | *Falcipennis canadensis* | NL | NL | RFSS | Y | Coniferous forest of Jack pine, black spruce and tamarack; habitat always includes short needle component and branches that extend to the ground |
| Connecticut Warbler | *Oporornis agilis* | NL | NL | RFSS | Y | Mature lowland coniferous habitats especially mature black spruce, tamarack bogs and jack pine barrens with tick shrub understory |
| Wilson's Phalarope | *Phalaropus tricolor* | NL | T | RFSS | Y | Quiet, shallow pools bordered by wet meadow vegetation |
| Black-Backed Woodpecker | *Picoides arcticus* | NL | NL | RFSS | Y | Mature coniferous forests which include dead and dying tamarack or spruce bogs, white cedar infested with wood boring beetle larvae |
| Caspian Tern | *Sterna caspia* | NL | NL | RFSS | N | Islands in very large lakes |
| Common Tern | *Sterna hirundo* | NL | T | RFSS | N | Isolated, sparsely vegetated islands in large lakes |
| Great Gray Owl | *Strix nebulosa* | NL | NL | RFSS | Y | Mature lowland black spruce, black ash wetlands, tamarack wetlands and conifer and hardwood uplands adjacent to meadow openings |
| Sharp-Tailed Grouse | *Tympanuchus phasinellus* | NL | NL | RFSS | N | Expansive areas of graminoid and brush habitat (at least 2 square miles). Habitat niche is between grasslands and forests, usually created and maintained by fire |
| **Mammals** | | | | | | |
| Canada Lynx | *Lynx canadensis* | T | E | T | Y | Mixed coniferous and deciduous vegetation types; deep snow and abundant snowshoe hares for prey |
| Gray Wolf* | *Canis lupis* | T | E | T | Y | Broad spectrum of habitats with abundant ungulate prey |
| Northern Bog Lemming | *Synaptommys borealis* | NL | SC | RFSS | Y | Sphagnum and Labrador tea lowland black spruce/tamarack bogs and peatlands with grasses and sedges in conjunction with an ericaceous shrub layer |
| **Plants** | | | | | | |
| Blunt-Lobed Grapefern | *Botrychium oneidense* | NL | E | RFSS | Y | Northern hardwoods, especially near ephemeral pools |
| Pale Moonwort | *Botrychium pallidum* | NL | E | RFSS | Y | Northern hardwoods, odd spots in pine habitat, and openings |
| Ternate Grapefern, St. Lawrence Grapefern | *Botrychium rugulosum* | NL | T | RFSS | Y | Odd spots, particularly in pine habitat |

| Common Name | Scientific Name | Federal Status | Minnesota Status | Forest Service Status | Suitable Habitat | Habitat |
|---|---|---|---|---|---|---|
| Least Moonwort | *Botrychium simplex* | NL | SC | RFSS | Y | Northern hardwoods, openings |
| Fairy Slipper | *Calypso bulbosa* | NL | NL | RFSS | Y | Lowland conifer |
| Goldie's Wood-Fern | *Dryopteris goldiana* | NL | SC | RFSS | Y | Northern hardwoods and lowland hardwoods within one mile of every large lakes |
| Olivaceous Spike-Rush | *Eleocharis olivacea* | NL | T | RFSS | Y | Bogs, lakes, streams, and shoreline |
| Few-Flowered Spike-Rush | *Eleocharis quinqueflora* | NL | SC | RFSS | Y | Bogs, lakes, streams, and shoreline |
| White Trout-Lily | *Erythronium albidum* | NL | NL | RFSS | N | Northern hardwoods within one mile of very large lakes |
| Limestone Oak Fern | *Gymnocarpium robertianum* | NL | NL | RFSS | Y | Lowland conifer |
| One-Flowered Broomrape | *Orobanche uniflora* | NL | SC | RFSS | Y | Northern hardwoods, Lowland conifer, and upland/lowland conifer transition |
| Small Green Woodland Orchid, Club-Spur Orchid | *Platanthera clavellata* | NL | SC | RFSS | Y | Lowland conifer and bogs |
| Northern Bur-Reed, Clustered Bur-Reed | *Sparganium glomeratum* | NL | SC | RFSS | Y | Bogs, sedge meadows, wetlands, lakes, streams, and shoreline |
| American Awlwort | *Subularia aquatica* | NL | T | RFSS | Y | Lakes, streams, and shoreline |
| Canada Yew | *Taxus Canadensis* | NL | NL | RFSS | Y | Northern hardwoods, lowland hardwoods, lowland conifer |
| Triangle Moonwort | *Botrychium lanceolatum* | NL | T | RFSS | Y | Northern hardwoods, lowland hardwoods |
| Goblin Fern | *Botrychium mormo* | NL | SC | RFSS | Y | Northern hardwoods, lowland hardwoods |
| Matricary Grape Fern | *Botrychium matricariifolium* | NL | NL | NL | Y | Moist to wet coniferous and deciduous woods in the boreal forest ecoregion |
| Ram's-Head Lady's Slipper | *Cypripedium arietinum* | NL | T | RFSS | Y | Lowland conifer, transition between upland hardwood and lowland conifer |
| White Adder's-Mouth | *Malaxis monophyllos* or *Malaxis brachypoda* | NL | SC | RFSS | Y | Lowland hardwoods, lowland conifer |
| Lapland Buttercup | *Ranunculus lapponicus* | NL | SC | NL | Y | Sphagnum hummocks in cool conifer swamps |
| Mingan Moonwort | *Botrychium minganense* | NL | SC | RFSS | Y | Open shrub land and barren slopes |

NL Not Listed
E Endangered
T Threatened
SC Species of Concern
RFSS Regional Forester Sensitive Species
* All of Beltrami County is critical habitat for the Gray Wolf

A follow-up Biological Assessment was conducted in May 2003 for specified rare or otherwise sensitive plant species specified by the Chippewa National Forest and FHWA within appropriate habitats known to support such species. One population of a Regional Forest Sensitive Species, *Botrychium minganense,* was discovered within the work limits of the proposed highway alignments. *Botrychium minganense* is also listed as Special Concern on the Minnesota Department of Natural Resources' list of Threatened, Endangered, and Special Concern plant species. Although suitable habitat occurred for the other surveyed, rare species, no additional rare plant populations were documented within these habitats.

An additional BA is scheduled for August 18 - 23, 2003, to survey for late-season species requested by the Chippewa National Forest and the FHWA. Appropriate habitats for these species have been located during the spring field survey, and will be revisited during late summer survey. The results of both this survey and the additional, planned fieldwork will be documented in a final biological assessment to be produced in September 2003.

By letter dated June 14, 2002, the U.S. Fish and Wildlife Service (FWS) stated that the following federally listed species and critical habitat may occur in the study area. The bald eagle (*Haliaeetus leucocephalus*), Canada lynx (*Lynx canadensis*) and gray wolf (*Canis lupus*) are listed as federally threatened in Minnesota and are known, or have the potential, to occur in Beltrami County. In addition, the FWS stated that there appears to be substantial bald eagle use in the vicinity of the North and South Twin Lakes areas.

a. Bald Eagle

With a wingspan of seven feet, the bald eagle is the largest bird of prey in northern Minnesota. The bald eagle is also a federally listed threatened species. Currently, the bald eagle is being considered for removal from the threatened list, at which time it would be listed as a sensitive species on the Chippewa for a minimum of five years. In the state of Minnesota, the bald eagle is listed as a species of "special concern." One of the unique features of the Chippewa is the highest breeding density of Bald Eagles in the lower 48 states. Approximately 170 breeding pairs of eagles produce about 150 eaglets each year.

Large red and white pines make excellent eagle nesting sites although aspen and others are occasionally used. Nests sometimes reach 10 feet in diameter and weigh over 4000 pounds. Protection of nest sites from destruction and disturbance has been a key objective of bald eagle management on National Forest lands.

Each eagle breeding area has a management plan specifically tailored to the site. Circular "buffer zones" have been established

around each nest to limit human activity. Timber cutting, roads and trail use are restricted within 1320 feet (1/4 mile) of each nest. A zone between 330 and 660 feet from the nest allows activity between October 1 and February 15, while eagles are on their winter range. The average nesting success for Chippewa National Forest is 60%; about one-half of these fledge successfully.

The number of active bald eagle breeding pairs appears to be leveling off on the Chippewa. Increasing competition among breeding pairs at high nesting densities and continued lake shore development may be factors affecting the Forests "carrying capacity" of bald eagles. Future monitoring strategies may be geared toward focused population sampling in areas of the Forest with varying eagle nesting densities. Since 1991, the eagle population on the Chippewa National Forest has been stable with 140 to 190 breeding pairs. The populations have recently leveled to approximately 178 nesting pairs found each year.

No known bald eagle nests are within 1,320 feet of the project study area and no nests were observed during the June 2002 field assessment; consequently, there are no restrictions related to essential bald eagle habitat.

b. Canada lynx

The Canada lynx (*Lynx canadensis*) is a large North American cat physically distinguished by a short, black-tipped tail, tufted ears, and extremely large feet that enable it to walk easily through deep snow (Burt and Grossenheider 1980).

The Canada lynx prefers habitat in mature, older forests with downed trees and windfalls that provide cover for denning sites, escape, and protection from severe weather (FWS 2002b). The Canada lynx occupies swamps and forested areas across northern North America, including Alaska, Canada, and the northern United States, including Washington, Oregon, Idaho, Wyoming, Montana, Minnesota, Wisconsin, and the Upper Peninsula of Michigan. The Canada lynx occurs predominantly on Federal lands, especially in the West.

Canada lynx populations fluctuate widely based on climate and the availability of prey, with peaks every nine to ten years. The Canada lynx are highly specialized to hunt snowshoe hares, their primary prey. The Canada lynx is a nocturnal hunter, feeding primarily on snowshoe hares, rodents, and birds. The breeding season of the Canada lynx is during January and February, with a three-month gestation period.

In 2000, the Canada lynx was listed as a threatened species in the

contiguous United States under the ESA, including a special regulation that allows for the take and export of lawfully obtained captive-bred lynx. The FWS concluded that the threat to the Canada lynx in the contiguous United States is the lack of guidance to conserve the species in current Federal land management plans. The agency is working with other Federal agencies to conserve Canada lynx habitat. The USFS has signed a Lynx Conservation Agreement, which would affect all forest plans within lynx habitat, that states, "Lynx habitat in the Great Lakes Geographical Area is embedded within the ecotone between boreal and mixed deciduous forests. In the Great Lakes states, lynx habitat consists of boreal spruce-fir forests, aspen, pine and mixtures of upland conifer and hardwood, interspersed with lowland conifer and shrub swamps and bogs, in those areas where snow accumulation and condition may limit travel of competing species."

c. Gray wolf

The gray wolf (*Canis lupus*) is the largest wild dog in North America. The habitat of gray wolves ranges from open tundra to forests. Prior to 1900, the gray wolf occupied most of the North American continent; however, the species currently is found only in Alaska, Canada, Yellowstone National Park in Wyoming, and northern portions of states along the northern United States border, including Minnesota and Montana.

Gray wolves are listed under the ESA as a threatened species in Minnesota and as an endangered species elsewhere in the 48 contiguous states. Wolves became nearly extinct in the lower 48 states in the early part of the 20th century because settlers believed wolves caused widespread livestock losses. Constantly persecuted and targeted by large-scale predator eradication programs sponsored by the Federal government, wolves have been pursued with more passion and determination than any other animal in United States history. By the time wolves were finally protected by the ESA, they had been exterminated from the lower 48 states, except for a few hundred that had inhabited the extreme northeastern Minnesota (FWS 1998).

Gray wolf recovery under the ESA had been so successful that in June 1998, FWS announced that it would review the species' status and consider delisting or reclassifying specific wolf populations where appropriate. In Minnesota, where the largest wolf population in the 48 contiguous states resides, a state program provides compensation for livestock confirmed to be killed by wolves, and a Federal program provides for the trapping of individual wolves suspected of depredation.

3. Species of Concern and Regional Forester Sensitive Species

The Minnesota Department of Natural Resources (MDNR) considers a species to be a Species of Concern (SC) when the species, although not endangered or threatened, is extremely uncommon in Minnesota, or has a highly unique or specific habitat requirements and deserve careful monitoring of its status. Species on the periphery of their range which are not listed as threatened may be included in this category, along with those species that once were once threatened or endangered but now have increasing or protected, stable populations.

The Regional Forester Sensitive Species (RFSS) list identifies plant and animal species for which viability is a concern and to direct management actions to conserve those plant and animal species. The head of each regional office of the Forest Service prepares the list. Candidates for sensitive species can come from state lists of endangered, threatened, rare, endemic, unique, or vanishing species and other sources. Each region determines its own list and criteria for listing. Sensitive species are those plant and animal species identified by a Regional Forester for which population viability is a concern, as evidenced by significant current or predicted downward trends in population numbers or density, and/or significant current or predicted downward trends in habitat capability that would reduce a species' existing distribution.

The following subsections contain the SC and RFSS species and a description of potential habitat associated with the project.

a. Reptiles

Blanding's Turtle

There are some sandy soils within the project study area that could serve as possible nesting sites for Blanding's turtle. The swamp habitats within and adjacent to the project study area may serve as potential feeding, breeding, or over wintering habitat.

b. Amphibians

Four-Toed Salamander

The swamps and boggy streams within the project study area may provide suitable habitat for the four-toed salamander. A temporary increase in sedimentation and turbidity may have a negative effect on the aquatic larvae. Mitigation measures to minimize sedimentation into wetlands, as identified in Section II (D) of this report, would protect individuals and their habitat. The creation of gravel shoulders and grass lined drainage swales may affect the spring migration of adults to and from lowland forests and

wetlands for breeding. However, the existing road probably presents a minor barrier to spring migration because the lowland forest/wetland interface is so vast in the surrounding area.

c. Fish

Greater Redhorse and Pugnose Shiner

Habitat for greater redhorse and pugnose shiner may exist in the Turtle River and in North and South Twin Lakes within the project study area; however, no formal surveys have been completed.

d. Insects

Vertree's Caddisfly

Little is known about the habitats of the Vertree's caddisfly (*Ceraclea vertreesi*), but it may be found in aquatic habitats ranging from small, headwater streams to larger rivers and lakes with a variety of substrates. Appropriate habitat may exist for this species in Turtle River and North and South Twin Lakes.

e. Mussles

Creek Heelsplitter, Black Sandshell, and Fluted-shell Mussels

The creek heelsplitter mussel is found in creeks and the headwaters of small- to medium-sized rivers in fine gravel or sand. It rarely is found in larger rivers. The species is sensitive to sedimentation and runoff from urban development and roads. The creek heelsplitter mussel may be found in Turtle River, but most likely does not occur within North or South Twin Lakes.

The black sandshell mussel is found in medium to large rivers, dwelling in riffles or raceways in gravel or firm sand. In 1995, the species was reported in low numbers in several northern rivers, but it appears to be doing well in the Chippewa River in Chippewa and Swift counties in western Minnesota (MDNR 1995). The fluted-shell mussel occurs in medium to large rivers in sand, mud, or fine gravel in areas with slow to moderate flow. Both the black sandshell and the fluted-shell mussels have been found in Turtle River, outside of and upstream of the project study area. No black sandshell or fluted-shell mussels were noted in Turtle River during the pedestrian survey completed in June 2002.

f. Birds

Red-Shouldered Hawk

The red-shouldered hawk prefers woodland habitats, especially lowland hardwood forests and swamps. Like the bald eagle, hawks hunt from a perch, typically found in roadside areas. The riparian floodplains associated with the Turtle River and conifer swamp edges along project area are suitable habitat for red-shouldered hawks. The hawks potentially could use the large white pine trees that are located in close proximity to both North Twin Lake and Turtle River as perches and nesting sites.

Northern Goshawk

The northern goshawk nesting and foraging territory is in portions of the surrounding area.

LeConte's Sparrow

The proposed roadway improvement project will impact a limited amount of potential habitat in the wet meadows along existing CSAH 22.

Nelson's Sharp-Tailed Sparrow

The proposed roadway improvement project will impact a limited amount of potential habitat in the wet meadows along existing CSAH 22.

Olive-Sided Flycatcher

The proposed roadway improvement project will impact a limited amount of potential habitat in the wet meadows and beaver meadows along existing CSAH 22.

Yellow Rail

The proposed roadway improvement project will impact a limited amount of potential habitat in the sedge meadows and grassy marshes along existing CSAH 22.

Bay-Breasted Warbler

The bay-breasted warbler is highly associated with outbreaks of spruce budworm in mature spruce-fir forests, and is dependent on these insects to rear nestlings. The only record of this species in the Chippewa National Forest is located 1.2 miles from the project

study area.

Spruce Grouse

The proposed action would impact limited amounts of suitable habitat. Marginal habitat quality, limited suitable habitat quantities, and lack of change of landscape character negated the need for surveys for this species.

Connecticut Warbler

Extremely limited quantities of potential suitable habitat located within the project study area may be impacted by the proposed project.

Wilson's Phalarope

The proposed roadway improvement project will impact a limited amount of potential habitat in the shallow pools bordered by wet meadows along existing CSAH 22.

Black-Backed Woodpecker

The black-backed woodpecker has been sighted along CSAH 22. The species is a resident of old-growth boreal coniferous forests with decadent trees and snags, and depends heavily on the larvae of wood-boring beetles.

Great Gray Owl

Limited quantities of potential nesting and foraging habitat occur in the project study area

g. Mammals

Northern Bog Lemming

Several large areas of sedge-dominated wet meadow habitat, coniferous lowland forest, shrub-dominated wetlands, and ericaceous bogs with a *Sphagnum*-dominated ground layer were encountered within the proposed right-of-way expansion. Although the proposed project occurs within much suitable habitat, historic records and local literature indicates the northern bog lemming is very uncommon in northern Minnesota. This species tends to occur only in small, isolated breeding populations. Furthermore, known populations of the northern bog lemming in Minnesota tend to occur away from human disturbance and development (such as existing roads).

h. Plants

Blunt-Lobed Grapefern

The blunt-lobed grapefern (*Botrychium oneidense*) was first discovered in Cass County in 1992 within moist depressions of northern hardwood forests. Along the proposed project corridor, very few moist forest depressions occur that would be suitable for this species. However, the ephemeral pools were surveyed for the presence of the blunt-lobed grapefern, and no populations were found during the June 2002 surveys

Pale Moonwort

Pale moonwort (*Botrychium pallidum*) is known to occur within northern hardwood forests and pine forests. In Minnesota, this species is very rare and cryptic, and most populations have been documented within the past ten years since the species first had been detected in the state in 1992. Recent discoveries of pale moonwort within the Chippewa National Forest (in Cass County) were within maple and basswood-dominated hardwood forest tracts.

Ternate Grapefern

The ternate grapefern (*Botrychium rugulosum*) is very rare in northern Minnesota and throughout its range. This species is known to occur within pine forests and forested wetland margins. Although no suitable pine forest habitat was documented within the project study area, several forested wetland margins were surveyed for the presence of this species. No individuals or populations of ternate grapefern were detected during the June 2002 surveys within the project study area.

Least Moonwort

The least moonwort (*Botrychium simplex*) often occurs in association with *Botrychium mormo* (goblin fern), both ferns preferring northern hardwood forests habitats in northern Minnesota. Several tracts of maple/basswood forest and mixed coniferous/deciduous forest will be impacted along the proposed roadway improvement corridor.

Goldie's Woodfern

*Dryopteris goldiana* generally occurs in moist soil on north- and east-facing wooded slopes in southeastern Minnesota. However, five disjunct populations were documented in North-Central Minnesota, north of Leech Lake in Cass County between 1975 and

1992, and one population was recorded in the Chippewa National Forest in Itasca County in 1999. All of the northern populations occur in association with closed canopy maple/basswood forest.

Within the proposed project area, several second-growth maple/basswood forest stands were documented and searched for the presence of Goldie's woodfern. However, the maple/basswood stands within the proposed project area typically were disturbed by past land use practices such as logging and grazing, and most had compacted soils, poor soil redevelopment, and little remaining duff layer. Such areas were searched thoroughly in June 2002 for the presence of *Dryopteris goldiana*. No individuals or populations were found.

Olivaceous Spike-Rush

*Eleocharis olivacea* is known to occur within a variety of wetland and aquatic habitats within northern Minnesota, including floating sedge mats, lake beaches, and river margins. Three populations have been documented in Minnesota (all from north central Minnesota). Although many suitable palustrine, riverine, and lacustrine wetland habitats were surveyed along the proposed corridor for this species, no populations were found during the June 2002 surveys.

Few Flowered Spike Rush

*Eleocharis pauciflora* is known to occur within a variety of wetland and aquatic habitats within Northern Minnesota, including floating sedge mats, lake beaches, and river margins. It is known to occur within the Chippewa National Forest, and was last documented there in 1925 on the beach of Ball Club Lake in Cass County. Although many suitable palustrine, riverine, and lacustrine wetland habitats were surveyed along the proposed corridor for this species, no populations were found during the June 2002 surveys.

One-Flowered Broomrape

*Orobanche uniflora* typically occurs in the southeastern section of Minnesota, although one disjunct occurrence was recorded within the Chippewa National Forest in north central Minnesota. The Chippewa population was found in a transition zone between white cedar swamp and northern hardwood forest in 1997. Several such transition zones were encountered along the proposed project corridor. Such areas located within the proposed project limits were searched extensively in June 2002 for the one-flowered broomrape, but no populations were found.

Small Green Woodland Orchid

The small green woodland orchid (*Platanthera clavellata*) is know from only one location within the Chippewa National Forest in North-Central Minnesota. According to Welby Smith (1993), the preferred habitat for this orchid is "mostly in boreal-type sphagnum swamps and floating mats; usually associated with scattered, often stunted black spruce and tamarack." Several small black spruce and tamarack swamps were located within the project area. Such areas were searched thoroughly for the small green woodland orchid during the June 2002 surveys. No individuals or populations were found.

Northern Bur-Reed

The northern bur-reed (*Sparganium glomeratum*) is known to occur within emergent wetlands and floating sedge mats in Northern Minnesota. Several small emergent wetlands occur along the proposed project corridor. All suitable habitats for the northern bur-reed within the project limits were searched during the June 2002 surveys, and no individuals or populations were found.

American Awlwort

In Minnesota, *Subularia aquatica* is known to occur exclusively within shallow littoral zones of sandy, oligotrophic lakes. The only suitable habitat encountered within the proposed project area was the southern shore of North Twin Lake. However, during the June 2002 surveys, these sandy lakeshore and associated littoral habitats were searched extensively for the presence of rare flora and fauna, but no populations of American awlwort were detected.

Triangle Moonwort

*Botrychium lanceolatum* prefers northern hardwood forests habitats in northern Minnesota. Several tracts of maple/basswood forest and mixed coniferous/deciduous forest will be impacted along the proposed roadway corridor. Suitable habitats for all moonwort species were searched during the June 2002 surveys of the proposed right-of-way expansion area, and no triangle moonwort ferns were detected. Further, the forest habitats within 50 feet of the existing roadway centerline have been disturbed by past roadway construction and use, and do not represent high-quality habitat for moonwort ferns.

Goblin Fern

*Botrychium mormo* prefers northern hardwood forests habitats in northern Minnesota. Several tracts of maple/basswood forest and

mixed coniferous/deciduous forest will be impacted along the proposed roadway corridor. Suitable habitats for all moonwort species were searched during the June 2002 surveys of the proposed right-of-way expansion area. No goblin ferns were detected. Further, the forest habitats within 50 feet of the existing roadway centerline have been disturbed by past roadway construction and use, and do not represent high-quality habitat for goblin ferns.

Lapland Buttercup

The lapland buttercup most commonly occurs on *sphagnum* hummocks located in cool conifer swamps. The species reproduces primarily from large trailing rhizomes and can form large colonies in favorable conditions (Coffin and Pfannmuller 1988). Two large tracts of white cedar swamp within the project study area provide suitable habitat for the species in basemap sections 5, 6, 21, 22, and 23 (see Figure 3-1). The conifer swamp edges within the proposed construction limits were searched extensively during the June 2002 surveys, and no Lapland buttercup plants were found.

Ram's-Head Lady's Slipper

The ram's-head lady's slipper occurs within a wide range of forest types, including dry, sandy jack pine forests, coniferous forests with dense *Sphagnum* ground layers, and mixed coniferous-deciduous upland forests (Smith 1993). Suitable habitat within the proposed study area includes white cedar swamps and northern mesic hardwood forest uplands

White Adder's Mouth

The white adder's-mouth is known to occur within coniferous swamps and hardwood swamps with peat soil in northern Minnesota (Smith 1993). Many of the white cedar swamps and tamarack swamps found within the project study area provide suitable habitat for this species of orchid. Although those habitats were searched extensively during the June 2002 surveys, no such plants were found.

Mingan Moonwort

The mingan moonwort is known to occur within a wide variety of moist habitats from low to alpine elevations. Grasslands, mossy lakeshores, and conifer and deciduous forestsare identified habitat for the mingan moonwart. Previously documented mingan moonwart populations within the Chippewa National Forest most commonly occurred within maple-basswood and northern

hardwood forest stands.

4. Birds, Fish, and Wildlife

The area is home to a diverse number of animals. Larger mammals include white-tailed deer, bear, gray wolf, and moose. Beaver, muskrat, fox, red and ground squirrel, fisher, otter, marten, bobcat, and badger are common fur-bearing animals found in this region.

Numerous species of fish, amphibians, and reptiles inhabit the area lakes, rivers, and wetlands, the most important of these being, muskie, northern pike, largemouth bass, smallmouth bass, walleye, trout, sucker, perch, leopard frog, garter snake, painted snake, and snapping turtle. In addition to aquatic resources, numerous species of migratory waterfowl utilize the waterways during the spring and autumn seasons.

Over 700 lakes, extensive marshes, open areas, and the deciduous and conifer forest, provide habitat for at least 329 species of birds, including the American woodcock, blue jay, blue-winged teal, hooded merganser, mallard, northern cardinal, American white pelican, pine siskins, raven, red-tailed hawk, snowy egret, and white-throated sparrow. Waterfowl, wading birds, and others associated with the aquatic environment are especially abundant. Bald eagles, ospreys, and other raptors are also common.

5. Wetlands

Four principal wetland types were identified along the proposed study area during the Tetra Tech field survey and are described below:

1. Ponds and Open Water Wetlands: Few areas of open water are located within the survey area. North Twin Lake is the largest water body immediately adjacent to the proposed right-of-way, although only the vegetated shoreline and associated wetlands fell within the survey limits. Other small, open water wetlands occur in association with emergent wetland systems. Most often, those small wetlands are located on the upstream end of stormwater culverts and typically were under 0.25 acres in size. Common vegetation within open water wetlands includes aquatic plants, such as water lilies (*Nymphaea* and *Nuphar*), pondweeds (*Potamogeton*), and coon's tail (*Ceratophyllum*).

2. Palustrine Emergent Wetlands**:** The areas of palustrine emergent wetlands (PEM) along the proposed study area are composed primarily of native vegetation such as sedges (*Carex spp*.), grasses (*Calamagrostis canadensis, Glyceria spp*., and *Zizania aquatica*) and various wetland forbs (*Sagittaria spp*., *Petasites sp*., *Ranunculus spp*., *Polygonum spp*.). Occasional encroachment of cattails (*Typha latifolia* and *T. angustifolia*), reed canary grass (*Phalaris arundinacea*), and giant reed (*Phragmites australis*), was observed within areas of past

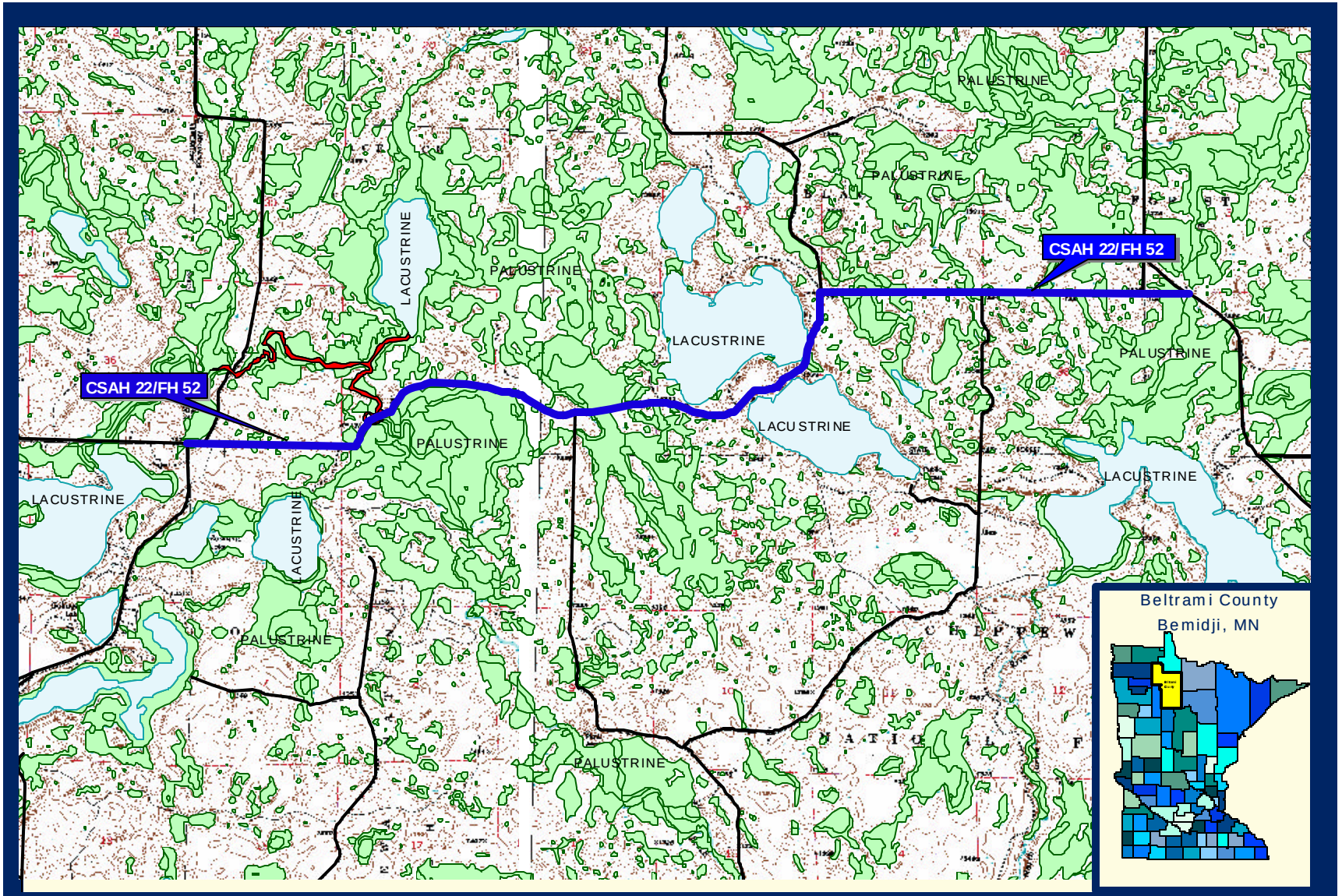
disturbance and vegetation maintenance (former pastures, power line right-of-ways, and roadside edges, etc.). Occasional encroachment of native shrubs such as willow, alder, and bog birch was observed in undisturbed emergent wetlands, especially along seasonally flooded edges. Some emergent marshes and wet meadows are composed of monotypic stands of lake sedge (*Carex lacustris*) and aquatic sedge (*Carex aquatilis*), with several other species present.

3. Palustrine Scrub-Shrub Wetlands: Palustrine scrub-shrub wetlands commonly are associated with forested wetlands that are regenerating from past disturbances. Red alder swamps (*Alnus incana*) and willow swamps (*Salix spp*.) are the common shrub swamps found within the proposed study area. Most commonly, red alder swamp was observed in association with disturbed tamarack swamp and white cedar swamp. Generally, alder swamps are very densely vegetated with red alder, with few herbaceous species in the emergent ground layer. Willow swamps most commonly are associated with wet meadows and mixed emergent marshes, and are dominated by sedges (*Carex spp*.) in the emergent herbaceous layer.

4. Palustrine Forested Wetlands: The palustrine forested wetlands in the survey area consists primarily of white cedar (*Thuja occidentalis*), black spruce (*Picea marinara*), and tamarack (*Larix laricina*) swamps occurring within semi-permanently flooded and permanently flooded wetland systems. Black ash (*Fraxinus nigra*) dominated swamps occasionally was encountered in seasonally flooded depressions. White cedar swamps are the most common and highest quality forested wetland systems within the study area. White cedar swamps typically are composed of a dense white cedar canopy, a sparse shrub layer, and a diverse herbaceous layer comprised of characteristic sedges (*Carex spp*.), ferns (*Dryopteris cristata, Botrychium virginianum, Thelypteris palustris*), several orchid species (*Cypripedium calceolus, Corallorrhiza spp., Platanthera hyperborea*), and a dense, moist moss layer (*Sphagnum spp*.). Frequent saturated and inundated depressions among white cedar root systems provide habitat for additional aquatic and emergent species, such as marsh marigold (*Caltha palustris*) and the uncommon small yellow water crowfoot (*Ranunculus gmelini*).

6. Invasive Species

During the June 2002 survey, both the giant reed and reed canary grass were observed in the study area, and the purple loosestrife was observed within close proximity (approximately five miles) of the proposed project area. There are also no known occurrences of Tansy and Spotted Knapweed in the general location of this road.


CSAH 22/FH 52
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Beltrami County
Bemidji, MN
Chippewa National Forest
Beltrami County, Minnesota
County State Aid Highway 22/Forest Road 52
Affected Wetland
Palustrine Wetlands
Lacustrine Wetlands
County Rds.
CSAH22/FH52
For Planning Purposes Only - Not to Scale
N
PREPARED:
April, 2003

## B. **Physical Environment**

### 1. Air Quality

Beltrami County has been determined by the Environmental Protection Agency (EPA) to be an attainment area for purposes of the Clean Air Act, i.e., pollution levels are below *de minimis* levels established by the EPA. Because the existing road surface is gravel, dust is an inherent problem when vehicular traffic passes over the roadway when dry. Private residents living along Little Creek Road have expressed concern. Many neighboring residential properties maintain a buffer of trees located between the roadway and the residential structure to shield them from air borne dust that is created from vehicular disturbance along the roadway. Dust can lead to a variety of consequences and environmental damage such as siltation or clogging of water shed areas, particulate matter air pollution, and an increase in required maintenance on machinery. It is recommended that any proposed roadway improvements should maintain or re-establish these vegetative buffers as identified in the Mitigation Measures in Section II-D.

### 2. Water Quality/Hydrology

As glaciers sculpted northern Minnesota's landscape 12,000 years ago, they also carved some of the nation's best fishing lakes. The frozen rock and ice formed deep clear basins, now home to trout. Glacial sediments filled other basins producing nutrient-rich lakes with complex food webs that feed walleye, bass and panfish. These fish, along with others are in turn dinner for northern pike and muskie.

The project area is located near the headwaters of two major drainages: the Mississippi River and the Hudson Bay. Located within the Chippewa National Forest are nineteen watersheds with 400,000 acres of open water, 1,300 lakes including three of Minnesota's five largest, 923 miles of streams and over 400,000 acres of wetlands.

The subcontinental divide lies approximately 20 miles north of the project area. Water to south of this divide, including the Mississippi, runs into the Gulf of Mexico.

The availability of a wide variety of resources near water sources (i.e. waterfowl, fish, turtle, wild rice) are believed to have contributed to the close association between the location of archaeological sites and water sources such as lakes, rivers, and streams.

### 3. Soils/Geology

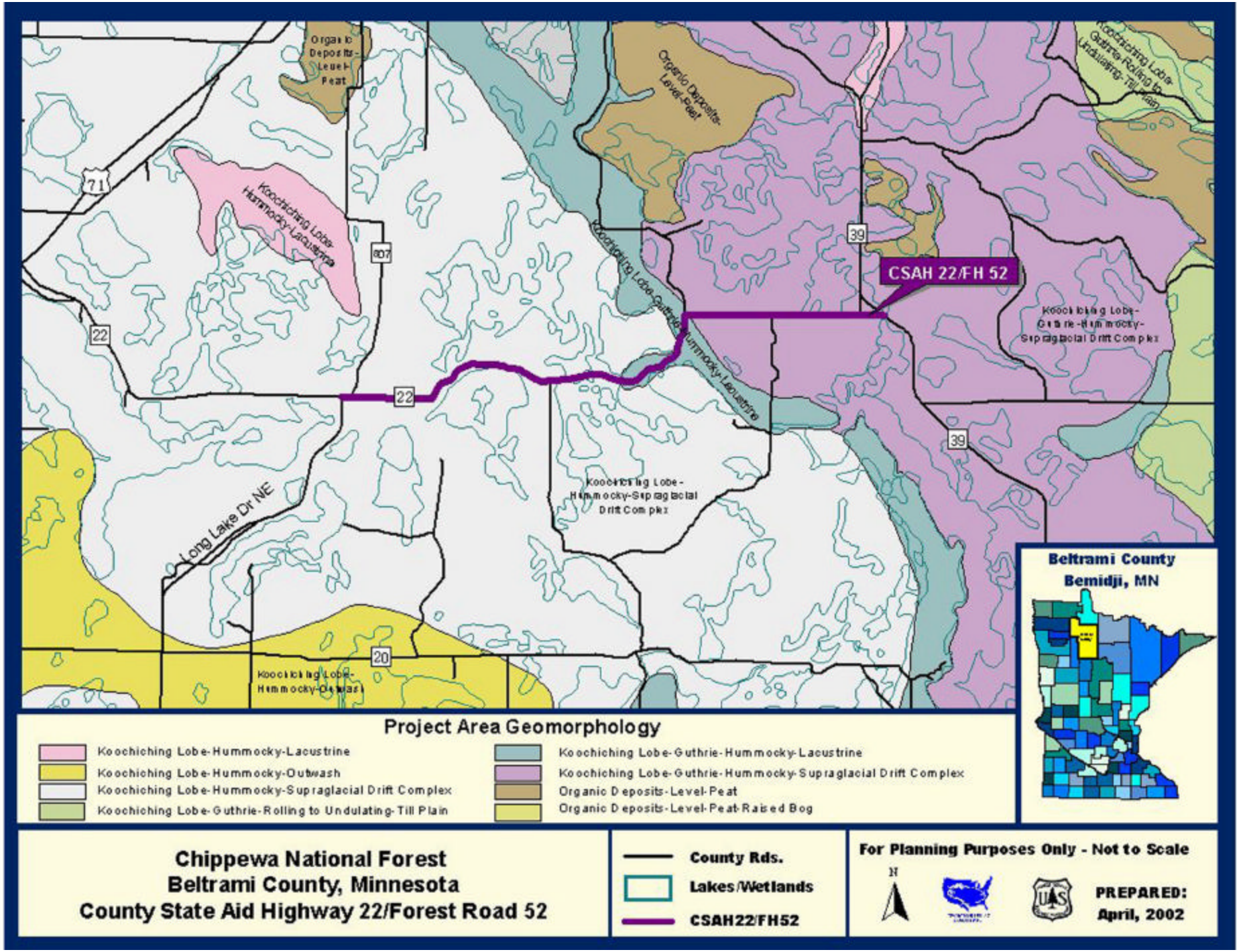
The upland through which the route passes is gently rolling and primarily forested. The soil type in this area is called the Blackduck Till Plain. The

Blackduck Till Plain is dominated by well and moderately well drained medium textured soils. Water available for plant use is moderate. Natural fertility is medium. Windthrow and erosion hazards are low. Inclusion of wet soils and organic soils commonly occur.

4. Noise

The study area is mostly serene and tranquil with the majority of noise being generated by commercial and recreational traffic, as well as residential uses. The existing roadway is gravel surfaced. This typically results in more noise being generated by vehicular traffic than those of comparable paved surfaced roads.

Since the proposed project is on a County-owned highway without full control of access, it is exempt from Minnesota Noise Standards, per Minnesota Statutes, Section 116.07 Subd. 2a. Potential traffic noise impacts of this project will be evaluated using federal noise criteria.


Organic Deposits-Level-Peat
Koochiching Lobe-Hummocky-Lacustrine
Organic Deposits-Level-Peat
Koochiching Lobe-Guthrie-Rolling to Undulating-Till Plain
71
807
22
22
39
39
CSAH 22/FH 52
Koochiching Lobe-Guthrie-Hummocky-Lacustrine
Koochiching Lobe-Guthrie-Hummocky-Supraglacial Drift Complex
Long Lake Dr NE
Koochiching Lobe-Hummocky-Supraglacial Drift Complex
20
Koochiching Lobe-Hummocky-Outwash
Beltrami County
Bemidji, MN
Project Area Geomorphology
Koochiching Lobe-Hummocky-Lacustrine
Koochiching Lobe-Hummocky-Outwash
Koochiching Lobe-Hummocky-Supraglacial Drift Complex
Koochiching Lobe-Guthrie-Rolling to Undulating-Till Plain
Koochiching Lobe-Guthrie-Hummocky-Lacustrine
Koochiching Lobe-Guthrie-Hummocky-Supraglacial Drift Complex
Organic Deposits-Level-Peat
Organic Deposits-Level-Peat-Raised Bog
Chippewa National Forest
Beltrami County, Minnesota
County State Aid Highway 22/Forest Road 52
County Rds.
Lakes/Wetlands
CSAH22/FH52
For Planning Purposes Only - Not to Scale
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PREPARED:
April, 2002

## C. **Cultural Resources**

Leech Lake Heritage Sites Program of Cass Lake, MN performed an Archaeological Survey of CSAH 22, in March of 1998 (Phase I) and February of 2000 (Phase II). The following section was taken from these reports.

### 1. Archeological Resources

Recent archaeological studies have expanded our knowledge concerning prehistoric cultures of the Mississippi Headwaters region. These studies have begun to distinguish the regional characteristics of northern Minnesota's prehistoric populations, characteristics that were previously based on a general developmental sequence that broadly enveloped the area.

The Paleo-Indian Period (12.000 -8.000 B.P.) was characterized by small nomadic bands of hunter/gatherers moving into the area. These people were specialized in the hunting of big game animals such as mammoth, caribou, and giant bison. Since these bands were small and mobile, they left little evidence of their occupation upon the landscape. Sites are best identified by isolated finds of fluted or lanceolate projectile points. Early Paleo-Indian sites are rare in Minnesota, and often from disturbed or surface contexts. This may be due to the effect of glacial action on the terrain (Harrison et al 1995). Late Paleo-Indian sites are far more numerous in northern Minnesota, although again mainly from undated disturbed contexts (Harrison et all995). Sites dating to this time period have been discovered and include the William Narrows site, the Lake Henry site, the Bradbury Brook site, and the Misiano Site. The Misiano site, located in northeastern Minnesota, is of particular importance, as it may contain the remains of a Paleo-Indian dwelling (LeVasseur et al. 1993).

As the environment began to change in the Archaic Period (8.000 -800 B.C.), prehistoric populations adapted to the alterations in climate. The weather became warmer and drier, and expanding oak-hardwood forests began to dominate the region. The local populations exploited different environmental zones, which eventually developed into regional cultural variations. The populations were still semi-nomadic, moving their camps to exploit seasonal resources. Hunting and gathering practices began to change with the disappearance of big game animals. Fish became an important resource at this time, as did nuts and berries, judging from the presence of roasting pits in their camps. Different technologies were developed as well, such as the use of copper for tools, and the method of grinding and pecking stone to make tools. Chipped stone tools changed as well. Projectile points generally became smaller, and were notched or stemmed near the base. Additional chipped stone tools were added to the tool kit, such as scrapers, drills, knives, and punches, reflecting the increased exploitation of diverse local environments. While excavated

sites dating to the Archaic, Period are somewhat scarce, some have revealed data relating to the increased use of local resources. The Itasca BisonI Kill Site (Shay 1971), the Parrow Site (Neumann and Johnson 1979), and Site ~1-BL-40 (Lothson 1986) all indicate repeated seasonal utilization of the area and a reliance on the local raw material.

Woodland Period (900 B.C. –1700 A.D.) sites are the most extensively encountered archaeological sites in Minnesota. The period is defined by the appearance of pottery and the construction of burial mounds. While these innovations illustrate increasing cultural complexity, their basic economic and subsistence patterns and tool kit remained relatively unchanged. The appearance of ceramics in the Woodland period in northern Minnesota predates the emergence of a permanent settlement pattern and intensive food production (Dobbs 1989). Woodland peoples still depended largely on large and small game animals, seasonal foods, and avian and aquatic resources as food sources. However, in many areas of Minnesota, it is at this time that a reliance on wild rice as a primary food source becomes recognizable in the archaeological record. Recent evidence has shown that wild rice was utilized during the Early Woodland Period, and wild rice phytoliths associated with Brainerd ceramics have been dated from contexts in northern Minnesota. Radiocarbon dates obtained from wild rice phytoliths place the beginnings of wild rice utilization in Minnesota at 2,800 B.P (Kluth 1995). Trade underwent an expansion during this period, but mainly in southern Minnesota.

Late Prehistoric (900 A.D. -1700 A.D.)

The Late Prehistoric Period (900 A.D. –1700 A.D.) in northern and central Minnesota is characterized by the Blackduck Complex and the Sandy Lake ceramic series. Johnson (1979) described the Headwaters region as the "core" of the Blackduck distribution in Minnesota. Blackduck assemblages are numerous across northern and central Minnesota, and the reliance on wild rice is evidenced by the number of sites located along lakeshores. Burial mounds associated with the Blackduck complexes are numerous throughout northern Minnesota. The Sandy Lake ceramic series first appears at 1300 A.D. These ceramics are different from Blackduck ceramics, in that there is little decorative treatment and shell tempering is used in the manufacturing process. Sandy Lake ceramics are also found on or near lakeshores, with strong wild rice utilization. Sandy Lake ceramics may be associated with the Dakota, as Sandy Lake sites are often found in areas inhabited during the Early Historic period by Dakota groups.

2. Historic Resources

Northern Minnesota felt the presence of colonialization long before the first explorer came into the area. In the early 1600's, Ojibwe groups involved with the fur trade pushed their way into the region, displacing Siouan groups. Fur trading posts became established in the latter half of the 18th century. Less than 75 years later, fur trading had all but vanished

due to over trapping and the decline of beaver fur as a fashionable item in Europe. Explorers then traversed the region, opening logging in southern Minnesota in 1830, and in northern Minnesota by 1850. The logging boom of the late 1800's and the building of the railroads opened the way for homesteaders at the turn of the century. Today, logging and tourism are the most important industries in northern Minnesota.

3. Tribal Coordination

The Chippewa National Forest performed tribal coordination with the Leech Lake Tribal Council.

## D. Visitor Use and Experience

The route crosses Turtle River and provides access to the river for canoeists. The Minnesota Department of Natural Resources maintains a canoe access at the route crossing. The route is entirely within the Chippewa National Forest and serves as public access to the extensive public lands of the Chippewa National Forest and the State of Minnesota. These lands are primarily managed, but at low intensity. A large system of hunter walking trails and forest roads extend outward from Little River Road.

The Chippewa National Forest, along the shore of North Twin Lake adjoining the north side of the route, has constructed a public water access. The site provides picnic areas, boat access, and toilet facilities. There is only a very narrow buffer strip of trees between the access area and CSAH 22. These trees are important in maintaining the character and visual quality of the access area. The entrance road from the access area onto CSAH is rather steep making it difficult to get out and leading to some tire spinning, which causes minor erosion.

Since the roadway has a gravel surface, dust is an inherent problem. Motorized and pedestrian users of the roadway have expressed concerns related to dust that include not being able to maintain a clean vehicle and pedestrians inhaling large amounts of dust when vehicles pass by.

## E. Traffic Conditions

The predominant existing cross section along CSAH 22 is a 22-foot wide aggregate surfaced roadbed with minimal ditches (2 feet deep or less) with inslopes and backslopes varying from 2:1 to 4:1 (horizontal:vertical). The current operating speed is limited to about 30 mph at locations with radical horizontal and vertical curvature. The legal speed limit along the route is 55 mph.

The highway network in the vicinity of this segment of CSAH 22 consists exclusively of secondary routes including township, county, county state aid, state forest and national forest roads and highways. The route functions as a collector and is classified as a major collector. The traffic is predominantly of local origin and destination consisting of commuter and recreational trips with personal vehicles. The route does carry some commercial traffic including logging trucks.

The route carries a higher volume of personal vehicles in the summer months due to the local tourism industry and the increasing number of seasonal homes along nearby lakes. The logging industry traffic is present year round, but is considerably higher during the winter months. Logging traffic is both through traffic and traffic generated by timber sales on the extensive county, state forest, and national forest lands for which the route serves as the only access. The route is on the local school bus and mail routes and does provide a connection for emergency service vehicle operations.

| Roadway | Existing ADT (2001) | Projected ADT (2021) |
|---|---|---|
| CSAH 20 | 940 | 1,598 |
| CSAH 22 | 294 | 500 |
| CSAH 27 | 220 | 374 |
| CSAH 39 | 550 | 935 |

A June 30, 2002 accident report provided by Mn/DOT shows that there have been 17 reported accidents since July 1, 1992.

According to Skorseth and Selim, "the average daily traffic volumes (ADT) used to justify paving generally range from a low of 50 vehicles per day to 400 or 500. When traffic volumes reach this range, serious consideration should be given to some kind of paving." The ADT along Turtle River Lake Road (CSAH 22) is approximately 294 vehicles per day (vpd) and is expected to reach approximately 500 vpd in twenty years.

## IV. Environmental Effects

This section forms the scientific and analytical basis for comparison of the alternatives discussed in Section III, and describes the probable consequences (impacts and effects) of each alternative on selected environmental resources. The following impacts were derived and quantified through numerous field reviews, preliminary design efforts, and coordination with applicable resource agencies. Due to the similarities in the Build Alternatives the impacts of each will be discussed collectively with the difference in impacts being highlighted in the text.

### A. Natural Resources

#### 1. Vegetation

a. No Action Alternative

The existing species abundance would remain relatively the same.

b. Build Alternatives

The proposed widening of the road would make it necessary to remove some vegetation and trees along the approximately 6.9 miles of roadway. It is estimated that approximately 14.2 acres (Alternative A)/ 23.9 acres (Alternative B)/ 15.8 acres (Alternative C) of the wooded habitat within the Forest would be disturbed by the proposed work. Similar habitat is present throughout the Forest and would remain present under current management plans; therefore, the overall impact to vegetation would be minor.

c. Conclusions

No impact to vegetative resources is anticipated under the No Action Alternative. Under the Build Alternatives A, B, and C, removal of vegetation would be required for the widening of the roadway. Implementation of the mitigation measures identified in Section II (D) would further limit the projects impact. The existing species abundance at the Chippewa National Forest would remain approximately the same.

#### 2. Threatened and Endangered Species

a. No Action Alternative

No impact to threatened or endangered species is anticipated.

b. Build Alternatives

All three of the Build Alternatives would involve the removal, cutting and filling, or other damage to the mature white pine (*Pinus*

*strobus*) trees within the project study area adjacent to open water (North and South Twin Lakes) and may result in minor impacts to the potential nesting and roosting habitat of the bald eagle. Additional vehicular traffic associated with the proposed roadway improvements also likely would deter bald eagles from nesting or roosting in white pine trees immediately adjacent to the proposed new roadway. Large tracts of secluded habitat suitable for bald eagles to nest and forage include the four local large water bodies, North and South Twin Lake, Turtle River Lake, and Pimushe Lake. The proposed roadway improvement project with its associated mitigation measures presented in Section IV of this report is not expected to interfere with nesting or foraging and is anticipated to have no impact on the bald eagle.

Within Minnesota, the home range of both the Canada lynx and the gray wolf include large tracts of old growth forest and scrub-shrub land habitat. Undisturbed areas of old growth forest and scrub-shrub habitat that would provide suitable habitat for the home range of both the Canada lynx and the gray wolf are located in close proximity to the project study area. Examining the project study area from a landscape-scale perspective and considering that a gravel road already exists over the majority of the area of the proposed roadway improvement, only negligible additional impacts would occur to the habitat of the Canada lynx and the gray wolf. The habitat that would be affected by the proposed roadway improvement currently is disturbed marginal quality habitat adjacent to the existing gravel road.

c. Conclusions

The proposed roadway improvements described for Build Alternatives A, B, or C would have No Effect on the home range habitat of both the Canada lynx and the gray wolf. Build Alternative A, B, or C May Effect suitable habitat for the bald eagle. Implementing the mitigation measures identified in Section II (D) would lessen the potential to impact habitat suitable for the bald eagle would be greater.

3. Species of Concern and Regional Forester Sensitive Species

The Threatened and Endangered Species surveys and Biological Evaluation that was completed in 2002 are being augmented by additional surveys in the fall and summer of 2003 to further verify the presence or lack thereof of 7 species including: Blunt-lobed Grapefern, Ternate Grapefern, Fairy Slipper, Ram's-head Lady's Slipper, Olivaceous Spike-rush, Few-Flowered Spike-rush, Bog Adder's Mouth, Veltree's Caddisfly, and Goblin Fern.

a. No Action Alternative

The No Action Alternative would not have any effect on Species of Concern or Regional Forester Sensitive Species

b. Build Alternatives

i. Reptiles

Blanding's Turtle

Neither the clearing nor re-grading of small portions of the project study area should make this habitat unsuitable for the Blanding's turtle. The proposed roadway improvement project with its associated mitigation measures presented in Section 5 of this report is not expected to interfere with dispersal and will have no impact on Blanding's turtle.

ii. Amphibians

Four-Toed Salamander

The proposed roadway improvement project also includes the installation of a culvert to restore the natural hydrology of the area and would potentially create additional habitat, as well as potentially may provide a migration route under the barrier (existing CSAH 22). Implementation of the proposed action may adversely impact individuals or habitat, but likely will not to cause a trend towards federal listing or a loss of viability for the population or species.

iii. Fish

Greater Redhorse and Pugnose Shiner

Sedimentation from grading and roadway improvement may impact habitat by smothering interstitial spaces in coarse substrates required for invertebrate food production and egg incubation. No construction activities would occur in open water or in the streams and rivers within the project study area. The mitigation measures outlined in Section 5 of this report that focus on sediment and run-off control would prevent any negative impacts on this species or its habitat.

iv. Insects

Vertree's Caddisfly

Siltation of aquatic habitats during grading and roadway improvement activities may result in adverse impacts on this species or its habitats. No construction activities would occur in open water or in the streams and rivers within the project study area. The mitigation measures outlined in Section II (D) of this report that focus on sediment and run-off control would prevent any negative impacts on this species or its habitat.

v. Muscles

Creek Heelsplitter, Black Sandshell, and Fluted-shell Mussels

The proposed roadway improvement project may adversely impact the black sandshell and fluted shell mussels. Siltation of the aquatic habitats in Turtle River during grading and roadway improvement activities may result in adverse impacts on this species or its habitats. No construction activities would occur in open water or in the streams and rivers within the project study area. The mitigation measures outlined in Section 5 of this report that focus on sediment and run-off control would prevent any negative impacts on this species or its habitat.

vi. Birds

Red-Shouldered Hawk

The removal, cutting and filling, or other damage to the mature white pine (*Pinus strobus*) trees within the project study area adjacent to open water (the Turtle River and North Twin Lake) may result in minor impacts to the nesting and roosting habitat of the red-shouldered hawk. The additional vehicular traffic may deter the red-shouldered hawk from nesting adjacent to the proposed roadway improvement, but would not deter the hawk from utilizing the roadside habitat as a foraging area. Large tracts of secluded habitat suitable for red-shouldered hawks to nest and forage include the four local large water bodies, North Twin Lake, South Twin Lake, Turtle River Lake, and Pimushe Lake. The proposed roadway improvement project with its associated mitigation measures presented in Section 5 of this report is not expected to interfere with

nesting or foraging and will have no impact on the red-shouldered hawk.

Northern Goshawk

The project study area does not enter into the nesting or foraging territory of the northern goshawk. The proposed project will not impact the northern goshawk.

LeConte's Sparrow

Implementation of the proposed action may impact individuals or habitat, but likely will not contribute to a trend towards federal listing or cause a loss of viability to the population or species.

Nelson's Sharp-Tailed Sparrow

Implementation of the proposed action may impact individuals or habitat, but likely will not contribute to a trend towards federal listing or cause a loss of viability to the population or species.

Olive-Sided Flycatcher

Implementation of the proposed action may impact individuals or habitat, but likely will not contribute to a trend towards federal listing or cause a loss of viability to the population or species.

Yellow Rail

Implementation of the proposed action may impact individuals or habitat, but likely will not contribute to a trend towards federal listing or cause a loss of viability to the population or species.

Bay-Breasted Warbler

The removal of spruce and fir trees associated with the proposed roadway improvement project may adversely impact suitable habitat of the bay-breasted warbler. Implementation of the proposed action likely will not contribute to a trend towards federal listing or cause a loss of viability to the population or species.

Spruce Grouse

Implementation of the proposed action likely will not

contribute to a trend towards federal listing or cause a loss of viability to the population or species.

Connecticut Warbler

Due to the limited potential impacts, surveys were not prescribed. Implementation of the proposed action would likely have no impact on the Connecticut warbler.

Wilson's Phalarope

Implementation of the proposed action may impact individuals or habitat, but likely will not contribute to a trend towards federal listing or cause a loss of viability to the population or species.

Black-Backed Woodpecker

No old-growth boreal coniferous forest is located in the project study area, but the removal of snags and insect-infected trees may result in a loss of suitable foraging habitat. Implementation of the proposed action may impact individuals or habitat, but likely will not contribute to a trend towards federal listing or cause a loss of viability to the population or species.

Great Gray Owl

Implementation of the proposed action would likely have no impact on the great gray owl.

vii. Mammals

Northern Bog Lemming

Expansion and improvement of the existing roadway will impact habitats that are of a quality that only are marginally suitable for this species. Implementation of the proposed action may impact individuals or relatively small areas of potential habitat, but likely will not contribute to a trend towards federal listing or cause a loss of viability to the population or species.

viii. Plants

Blunt-Lobed Grapefern

Implementation of the proposed action may impact individuals or relatively small areas of potential habitat, but

likely will not contribute to a trend towards federal listing or cause a loss of viability to the population or species.

### Pale Moonwort

The greatest potential impact to the suitable habitats of the moonwort ferns is associated with the roadway realignment at the intersection of CSAH 22 and Forest Road 3213, east of North Twin Lake. That forest habitat was surveyed extensively, and it appeared to be a former pasture typified by compacted soils and poor soil development, which lacked leaf litter; all factors which impede the establishment and persistence of moonwort ferns. No individual plants or populations were found during the June 2002 surveys. Implementation of the proposed action may impact relatively small areas of potential habitat, but likely will not contribute to a trend towards federal listing or cause a loss of viability to the population or species.

### Ternate Grapefern

Implementation of the proposed action may impact relatively small areas of potential habitat, but likely will not contribute to a trend towards federal listing or cause a loss of viability to the population or species.

### Least Moonwort

The greatest potential impact to the suitable habitats of the moonwort fern is associated with the roadway realignment at the intersection of CSAH 22 and Forest Road 3213, east of North Twin Lake (see Figure 3-10). However, this forest habitat was surveyed extensively, and appears to be a former pasture typified by compacted soils, poor soil development, which lacks leaf litter, all factors which impede the establishment and persistence of moonwort ferns. No individuals or populations of least moonwert were identified during the June 2002 surveys. Implementation of the proposed action may impact relatively small areas of potential habitat, but likely will not contribute to a trend towards federal listing or cause a loss of viability to the population or species.

### Goldie's Woodfern

Implementation of the proposed action may impact relatively small areas of potential habitat, but likely will not contribute to a trend towards federal listing or cause a loss

of viability to the population or species.

Olivaceous Spike-Rush

Implementation of the proposed action may impact relatively small areas of potential habitat, but likely will not contribute to a trend towards federal listing or cause a loss of viability to the population or species.

Few Flowered Spike Rush

Implementation of the proposed action may impact relatively small areas of potential habitat, but likely will not contribute to a trend towards federal listing or cause a loss of viability to the population or species.

One-Flowered Broomrape

Due to this species' southern affinity and local rarity, it is not likely that any populations or individuals occur within the proposed project corridor. Implementation of the proposed action may impact relatively small areas of potential habitat, but likely will not contribute to a trend towards federal listing or cause a loss of viability to the population or species.

Small Green Woodland Orchid

The coniferous swamp habitats along the proposed project area have been disturbed by past roadway construction and use, and, in most cases, were somewhat degraded. Implementation of the proposed action may impact relatively small areas of potential habitat, but likely will not contribute to a trend towards federal listing or cause a loss of viability to the population or species.

Northern Bur-Reed

Although individual plants may have not been detected, implementation of the proposed action may impact individuals or relatively small areas of potential habitat, but likely will not contribute to a trend towards federal listing or cause a loss of viability to the population or species.

American Awlwort

Implementation of the proposed action may impact individuals or relatively small areas of potential habitat, but likely will not contribute to a trend towards federal listing

or cause a loss of viability to the population or species.

Triangle Moonwort

The greatest potential impact to the suitable habitats of the moonwort ferns is associated with the roadway realignment at the intersection of CSAH 22 and Forest Road 3213, east of North Twin Lake (see Figure 3-10). However, this forest habitat was surveyed extensively, and it appears to be a former pasture typified by compacted soils, poor soil development, which lacks leaf litter, all factors which impede the establishment and persistence of moonwort ferns.

Implementation of the proposed action may impact relatively small areas of potential habitat, but likely will not contribute to a trend towards federal listing or cause a loss of viability to the population or species.

Goblin Fern

The greatest potential impact to the habitats of the goblin ferns is associated with the roadway realignment at the intersection of CSAH 22 and Forest Road 3213, east of North Twin Lake (see Figure 3-10). However, this forest habitat was surveyed extensively, and it appears to be a former pasture typified by compacted soils, poor soil development, and lacks leaf litter, which are all factors that impede the establishment and persistence of goblin ferns.

Implementation of the proposed action may impact relatively small areas of potential habitat, but likely will not contribute to a trend towards federal listing or cause a loss of viability to the population or species.

Lapland Buttercup

Implementation of the proposed action may impact relatively small areas of potential habitat, but likely will not contribute to a trend towards federal listing or cause a loss of viability to the population or species.

Ram's-Head Lady's Slipper

The proposed construction may have little impact on interior forest habitat, and it is unlikely that the species occurs within the forest edges potentially affected by the proposed construction boundaries. Implementation of the proposed action may impact individuals or relatively small

areas of potential habitat, but likely will not contribute to a trend towards federal listing or cause a loss of viability to the population or species.

White Adder's Mouth

Implementation of the proposed action may impact relatively small areas of potential habitat, but likely will not contribute to a trend towards federal listing or cause a loss of viability to the population or species.

Mingan Moonwort

The BA of May 2003 documented a population within an upland white cedar stand, approximately 30 feet south of the proposed highway centerline benchmark 22+375. This is the first record of *B. minganense* occurring within an upland white cedar forest habitat within the Chippewa National Forest.

Implementation of the proposed action may impact relatively small areas of potential habitat, but likely will not contribute to a trend towards federal listing or cause a loss of viability to the population or species. The mitigation measures outlined in Section II (D) of this report that focus on threatened and endangered species would prevent any negative impacts on this species or its habitat.

c. Conclusions

Negligible impacts to the habitat of the SC and RFSS species would result from the proposed roadway improvements described for Build Alternatives A, B, or C. The North Twin Lakes Area Treatment would incorporate design features to protect the environment of the Vetree's Caddisfly located in the North Twin Lake section of the project and the Mingan Moonwort located at benchmark 22+375. The mitigation measures mentioned in Section II (D) would prevent negative impacts on the SC or RFSS species an their habitat.

4. Birds, Fish and Wildlife

a. No Action Alternative

The No Action Alternative would not have any effect on Birds, Fish or Wildlife.

b. Build Alternatives

Birds and other wildlife may avoid potential habitat adjacent to the project site because of noise and other factors; however, since the proposed project occurs along the alignment of the existing roadway, it is likely that these area are already avoided to some extent and no additional impact may result. Fish would be potentially impacted in the short term due to impacts on water quality associated with erosion as a result of the construction. There is also a potential for impacts in Alternative B if construction of the retaining wall southeast of North Twin Lake involves entry into the water. Best management practices would be utilized to minimize or eliminate these potential impacts. Additionally, the paved surface provide by the selection of any of the alternatives would increase vehicle speeds on the road and increase the chance of dear strikes.

c. Conclusions

None of the alternatives would have a significant effect on birds, fish and wildlife. Under Build Alternatives A, B, or C, any adverse affects caused by construction would be temporary. There may be an increased likelihood of deer strikes associated with increased vehicle speeds, but an increased clear zone that would improve visibility and avoidance would offset these. Impacts associated with Build Alternative B are similar to those presented under Alternative A, but the long-term impacts to wildlife are presumed to be slightly greater since the area of impact is somewhat larger.

5. Wetlands

Preliminary wetland impacts have been identified and quantified during field reviews; however, the following wetland impacts are approximations and will be verified by the Corps of Engineers prior to the start of any construction activities. If wetland impacts were found to be greater than anticipated, comparable mitigation would be implemented. Should one of the Build Alternatives be selected, an individual Section 404 permit will be required from the Corps of Engineers prior to the start of construction. The wetland survey is currently underway.

a. No Action Alternative

This alternative would have no new impacts on wetlands within the study area.

b. Build Alternatives

Road reconstruction activities can affect water quality and wetlands by increasing sedimentation, decreasing the amount of wetland and riparian habitat and altering stream flow characteristics. Road reconstruction, with the use of wide box culverts, would restore natural flows between wetland areas. Loss of approximately 7.5 acres (Alternative A)/ 8.5 acres (Alternative B)/ 7.5 acres (Alternate C) of natural wetlands can reduce the functions that they provide such as maintaining water quality and flood control. Specific wetland areas impacted by the road widening is the Tamarack Swamp, North Twin Lakeshore, Sedge Meadow, and White Cedar Swamp. Should a Build Alternative be selected, a sediment and erosion control plan, including the use of best management practices, would be prepared and included in the final construction plans.

c. Conclusions

Wetlands would be permanently impacted with implementation of any of the Build Alternatives. Build Alternative B, does impact one more acre than the other Alternatives, but the short-term impacts to wetlands under Build Alternatives A, B, and C during construction could be minimized through the use of best management practices and the implementation of an erosion control plan.

Mitigation for the loss or degradation of wetlands identified in Section II (D) would include restoring, enhancing, preserving or creating wetlands to replace functions and values lost when existing wetlands are affected by construction activities. Each of the Build Alternatives could be improved with the inclusion of a single or a series of connected culverts to rehabilitate wetlands. Field inspections would determine the area where culverts would be the most beneficial.

## B. **Physical Environment**

### 1. Air Quality

a. No Action Alternative

Air quality levels would remain essentially in the same condition as they are under present conditions. This includes the generation of dust caused by vehicle traffic.

b. Build Alternatives

The temporary air quality impacts from construction are not

expected to be significant. Construction activities would be conducted in accordance with Minnesota Minimum Geometric Design Standards; and would require compliance with all applicable local, state, and federal regulations. There are no long-term air quality impacts associated with this alternative.

Dust is a by-product of vehicular traffic on the existing gravel road and can contribute to poor air quality. The Build Alternatives requires an asphalt-surfaced road that will effectively reduce dust emissions to an acceptable level. It is recommended that any proposed roadway improvements should maintain or re-establish vegetative buffers.

c. Conclusions

No additional impacts are anticipated under the No Action Alternative. Temporary and minor impacts to air quality may occur under Alternatives A, B, and C during construction. Implementing the mitigation measures identified in Section II (D) would assist in reducing the temporary impacts. Air quality would however, improve slightly with the selection of a Build Alternative due to the abatement of dust associated with the paving of the road surface.

2. Water Quality/Hydrology

a. No Action Alternative

No changes from the existing conditions are anticipated. Improvements to degraded wetlands and drainage conditions would not be performed.

b. Build Alternatives

Potential short-term impacts to water quality due to erosion may exist during construction; however, best management practices would be utilized to minimize the potential impacts. This includes any temporary work that may be required to install retention walls near North Twin Lake. Improvements in drainage would be realized with the replacement of larger drainage pipes (18”-24”). The choice of asphalt paved shoulders or aggregate topsoil shoulders will also impact water quality. An Asphalt Paved Shoulder is more permanent and involves less maintenance, but the aggregate Topsoil Shoulder provides a pervious surface that reduces the runoff into the neighboring water assets. Should a Build Alternative be selected, a sediment and erosion control plan, including the use of best management practices, would be prepared and included in the final construction plans.

c. Conclusions

The No Action Alternative would have no additional impact, nor would it benefit Water Resources. Water Resources would be temporarily affected with the implementation of any proposed Build Alternatives. Short-term impacts to water resources during construction could be minimized through the use of best management practices and the implementation of an erosion control plan. Long-term impacts could be minimized by the selection of an aggregate topsoil shoulder.

3. Soils/Geology

a. No Action Alternative

Gravel, sand, and silt would continue to erode off the existing roadbed into wetlands or lakes.

b. Build Alternatives

Since the proposed construction consists primarily of reconstruction and rehabilitation efforts, there would be no new geology introduced.

The Build Alternatives would reduce the volume of gravel, sand and silt eroding by paving the surface of the road. . Sediment and erosion control during construction would be controlled by the implementation of a Stormwater Pollution Control Plan. The completed project would incorporate gentler slopes that would enhance the establishment of vegetation and lessen erosion.

c. Conclusions

Erosion would persist under the No Action Alternative. The Build Alternatives would reduce the runoff into wetlands and lakes. None of the alternatives would affect the present condition of the geology. Alternative B due to its larger road prism would generate slightly more earth disturbance.

4. Noise

A traffic noise impact occurs if predicted traffic noise levels approach or exceed the FHWA noise abatement criteria (NAC), or when the predicted traffic noise levels substantially exceed the existing noise levels. In predicting noise levels and assessing noise impacts, traffic characteristics are used which yield the worst hourly traffic noise impact on a regular basis for the design year.

The proposed alternatives are not on a new location, are not a significant

change in horizontal or vertical alignment, and would not increase the number of through lanes, therefore the requirements of 23 CFR 772, federal procedures for abatement of highway traffic noise and construction noise, do not apply. However, potential noise impacts have been addressed as part of this environmental analysis.

a. No Action Alternative

The No Action Alternative would have no effect on current or future noise levels.

b. Build Alternatives

Existing noise levels would temporarily increase during construction. Forest visitors, Forest employees, and residents in the immediate vicinity of the project area would be subject to the minor noise pollution generated from construction. After construction, ambient noise levels would also be decreased with an asphalt-surfaced road.

c. Conclusions

The No Action Alternative maintains current noise levels. Under the Build Alternatives, noise levels would increase temporarily during construction, but once construction is complete, the asphalt-surface road associated with the Build Alternatives would contribute to an overall decrease in ambient noise levels.

## C. **Cultural Resources**

Potential impacts on cultural resources must be addressed under the provisions for assessing effects outlined in 36 CFR, par 800, regulations issued by the Advisory Council on Historic Preservation implementing section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended (16 U.S.C. 470 et seq.). Under the "Criteria of Effect" (36 CFR Part 800.9[a]), Federal undertakings are considered to have an effect when they alter the character, integrity, or use of a cultural resource, or the qualities that qualify a property for listing on the National Register of Historic Places.

Coordination with the Minnesota State Historic Preservation Officer has occurred and by letter dated March 22, 2002, the State Historic Preservation Officer issued a finding that "no historic properties eligible for or listed on the National Register of Historic Places will be affected by this project."

1. No Action Alternative

It is anticipated that no archeological resources would be disturbed or lost under the No Action Alternative.

2. Build Alternatives

Based on the proposed construction activities, the Minnesota State Historic Preservation Office (SHPO) has determined no historic properties eligible for or listed on the National Register of Historic Places will be affected by this project (See appendix A). In case unknown resources are encountered, construction activities would cease, and the SHPO would be contacted for further action.

3. Conclusions

No impacts to archaeological resources are anticipated under either alternative. In case unknown resources are encountered, construction activities would cease, and the SHPO would be contacted for further action.

D. **Socio-Economic Environment**

1. No Action Alternative

No impacts to the socio-economic environment is anticipated from this project. The use of Federal and local funds for construction would not be required

2. Build Alternatives

Additional short-term socioeconomic advantages would be realized with the selection of this alternative, by the creation of jobs for local workers during the duration of this project.

3. Conclusions

Alternatives A, B, and C would provide minor economic gains for construction workers, and less wear on vehicles visiting or operating in the Forest. Each of the proposed Build Alternatives would initially cost more than the No Action alternative; however long-term maintenance associated with the road would decrease.

E. **Visitor Use and Experience**

1. No Action Alternative

Visitor use and experience would remain essentially the same. The road would remain difficult to drive safely at certain seasons due to a poor road surface.

2. Build Alternatives

Each of the Build Alternatives calls for the paving of the existing road. Paving eliminates dust problems, has high user acceptance because of increased smoothness, improves safety, and can accommodate many types

of vehicles.

3. Conclusions

With the No Action Alternative, visits to the forest remain unchanged. Under the Build Alternatives, safety and overall drivability of the road would be enhanced with improved travel conditions, and a safer road. None of the alternatives would alter the scenic character of the existing road.

## F. Energy Requirements and Conservation

Energy consumption would temporarily increase during the reconstruction of the road. Selection of Build Alternative A, B or C would be expected to provide some benefits in terms of energy conservation because vehicles will perform more efficiently on a paved surface.

## G. Natural or Depletable Resources

The use of some natural resources would be required under each of the Build Alternatives in order to complete construction operations, however no natural resources would be depleted. The quantity of materials in comparison to those readily available would be negligible.

## H. Cumulative Impacts

Cumulative impacts are those impacts on the environment that result from the incremental effect of the project when considered with interrelated past, present, and reasonably foreseeable future projects.

1. No Action Alternative

The No Action Alternative would have little impact on future Forest development plans. However, the continued degradation of the roadway would do little to improve rider comfort and visitor enjoyment. County maintenance expenses can be expected to increase in order to keep the road functioning in a safe manner. The unaddressed safety concerns may lead to future liabilities on the road.

2. Build Alternatives

The total vegetation impacts associated with land disturbance equals 14.2 acres that include 7.5 acres of wetlands (Alternative A)/ 23.9 acres that include 8.5 acres of wetlands (Alternative B) / 15.8 acres that include 7.5 acres of wetlands (Alternative C), and is considered minor due to the abundance of similar type vegetation found within the Forest. Reconstruction and resurfacing efforts would be phased to minimize disruptions to Forest visitors and recreational commercial activities. The paved roadway would provide a dust free surface, increase safety and riding comfort, and minimize erosion and maintenance of the roadway.

3. Conclusions

The No Action Alternative maintains the present condition of the forest, with the exception of increased future maintenance expenditures. Under the Build Alternatives the cumulative affects are minimal, and adverse impacts would only occur during the rehabilitation and resurfacing effort and are not likely to continue once construction is complete. The improved roadway would provide a safer and more comfortable riding surface. The completion of this section of CSAH 22 completes the major collector roadway reconstruction in conjunction with the previously completed section. The proposed action would minimize the roadway maintenance and washing off of silt and gravel into the waterways.

Impacts associated with the removal of vegetation and water quality would not be significant, nor would the short-term disruptions to the wildlife species. Public and commercial use would be enhanced given a choice of safer transportation routes; however, minor inconveniences to the public would occur under each of the proposed projects during construction.

Road reconstruction will continue in the forest. Each proposed Build Alternative would contribute to the cumulative impacts on the Forest, but may not be substantial in themselves. The impacts associated with Alternative B for this project alone may be higher, but for vegetative clearance however, this alternative meets the Mn/DOT Standards for Design and Safety while Alternatives A and C do not.

## I. Summary of Environmental Effects

| Factor | No Action Alternative | Alternative A | Alternative B | Alternative C |
|---|---|---|---|---|
| Wetlands | No change from the existing conditions would occur. | This Alternative will impact approximately 7.5 acres of natural wetlands. | This Alternative will impact approximately 8.5 acres of natural wetlands. | This Alternative will impact approximately 7.5 acres of natural wetlands. |
| Vegetation | No change from the existing conditions would occur. | Limited vegetation removal and clearing would occur in areas proposed for reconstruction. A total of approximately 14.2 acres would be impacted by the project. Impacts on the vegetation would be expected to be minor. | Limited vegetation removal and clearing would occur in areas proposed for reconstruction. A total of approximately 23.9 acres would be impacted by the project. Impacts on the vegetation would be expected to be minor. | Limited vegetation removal and clearing would occur in areas proposed for reconstruction. A total of approximately 15.8 acres would be impacted by the project. Impacts on the vegetation would be expected to be minor. |
| Protected Species | No change from the existing conditions would occur. | The proposed project is not likely to affect any special status species. | The proposed project is not likely to affect any special status species. | The proposed project is not likely to affect any special status species. |
| Air Quality | No change from the existing conditions would occur. | Minor temporary impacts may occur during construction, however air quality would improve with the reduction in dust by paving the road. | Minor temporary impacts may occur during construction, however air quality would improve with the reduction in dust by paving the road. | Minor temporary impacts may occur during construction, however air quality would improve with the reduction in dust by paving the road. |
| Soils/Geology | No change from the existing conditions would occur. | Some earth disturbance would be required to perform the roadway reconstruction activities. | Some earth disturbance would be required to perform the roadway reconstruction activities. | Some earth disturbance would be required to perform the roadway reconstruction activities. |
| Water Quality | No change from the existing conditions would occur. | Minor impacts to water quality would be anticipated. | Minor impacts to water quality would be anticipated. | Minor impacts to water quality would be anticipated. |

| Factor | No Action Alternative | Alternative A | Alternative B | Alternative C |
|---|---|---|---|---|
| Birds, Fish and Wildlife | No change from the existing conditions would occur. | No impact would be expected to occur. | No impact would be expected to occur. | No impact would be expected to occur. |
| Cultural Resources | No change from the existing conditions would occur. | Per MN SHPO (March 22, 2000), no historic properties eligible for or listed on the National Register of Historic Places will be affected by this project. | Per MN SHPO (March 22, 2000), no historic properties eligible for or listed on the National Register of Historic Places will be affected by this project | Per MN SHPO (March 22, 2000), no historic properties eligible for or listed on the National Register of Historic Places will be affected by this project. |
| Noise | No change from the existing conditions would occur. | Minor temporary impacts are anticipated during construction. Ambient noise levels would be decreased with an asphalt-surfaced road. | Minor temporary impacts are anticipated during construction. Ambient noise levels would be decreased with an asphalt-surfaced road. | Minor temporary impacts are anticipated during construction. Ambient noise levels would be decreased with an asphalt-surfaced road. |
| Visitor Use and Experience | No change from the existing conditions would occur. | A paved road would improve the visitor's safety and drivability of the road. | A paved road would improve the visitor's safety and drivability of the road. | A paved road would improve the visitor's safety and drivability of the road. |
| Socio-Economics | No change from existing conditions would occur. | Local workers would benefit from the creation of short-term jobs. Long-term maintenance costs for the road would be less and there would be less wear on vehicles. | Local workers would benefit from the creation of short-term jobs. Long-term maintenance costs for the road would be less and there would be less wear on vehicles. | Local workers would benefit from the creation of short-term jobs. Long-term maintenance costs for the road would be less and there would be less wear on vehicles. |
| Right-of-Way | No additional right-of-way would be required. | Right-of-Way would be obtained to provide for a 67-foot wide corridor. | Right-of-Way would be obtained to provide for a 100-foot wide corridor. | Right-of-Way would be obtained to provide for a 67-foot wide corridor. |

| Factor | No Action Alternative | Alternative A | Alternative B | Alternative C |
|---|---|---|---|---|
| Road Character | No change from existing conditions would occur. | Would not alter the scenic character of the existing road. | Would not alter the scenic character of the existing road. | Would not alter the scenic character of the existing road. |
| Transportation | No impact would be expected to occur. | Would not meet Mn/DOT standards for the current route designation. | Would meet Mn/DOT standards for the current route designation. | Would not meet Mn/DOT standards for the current route designation. |
| Cumulative Impacts | No cumulative impacts are anticipated under this alternative. | The cumulative affects are minimal. The minor impacts would be minimized with the proposed mitigation measures. The existing rustic and scenic feel of the roadway would be maintained. | The cumulative affects are minimal. The minor impacts would be minimized with the proposed mitigation measures. The existing rustic and scenic feel of the roadway would be maintained. | The cumulative affects are minimal. The minor impacts would be minimized with the proposed mitigation measures. The existing rustic and scenic feel of the roadway would be maintained. |

## J. Irreversible and Irretrievable Commitment of Resources

The loss of nearly 7-8.5 acres, depending on the selection of Build Alternative A/C or B, of natural wetland (8-12 acres on National Forest) is an irreversible commitment. Wetland compensation through creating wetlands or changing the water depth of existing basins attempts to replace the resources and lessens the potential significance of such losses, but rarely duplicates all of the natural wetland complexes. Coordination of wetland replacement plans between Beltrami County Highway Engineers and Chippewa National Forest can serve to reduce and mitigate wetland impacts.

In accordance with the Forest Highway Program, to date, approximately $1.4 million, in Forest Highway Program funds, have been set aside for planning, design, and construction of the proposed action. If it is determined that the preferred alternative would not result in significant impacts, then construction would be expected to occur in 2004 and 2005.

## K. Unavoidable Adverse Environmental Effects

The clearing of approximately 14.2 acres (Alternative A)/ 23.9 acres (Alternative B)/ 15.8 acres (Alternative C) of vegetation would be required for the widening and resurfacing of the road. Included in this figure is approximately 7.5 acres (Alternative A)/ 8.5 (Alternative B)/ 7.5 (Alternative C) of wetlands would also

be affected. The area cleared for grading and drainage would be stabilized and restored with native vegetation.

## L. Local Short-Term Uses and Maintenance/Enhancement of Long-Term Productivity

Short-term maintenance costs would decline if a Build Alternatives is selected and the work occurs in the near future. As a result, the County and Forest Service may allocate more time and personnel to the protection of the forest's more prominent cultural and natural resources.

## M. Compliance with Environmental Requirements and Management Policies

The Chippewa National Forest currently operates under the direction of the approved *LRMP for Years 1986-2001*. Management objectives identified within the *LRMP* direct the maintenance and upgrading of roadways in order to provide for a positive visitor experience and to ensure effective roadway operations. However, construction and maintenance must be compatible with and sensitive to the resources for which the forest was set aside.

The 1982 Surface Transportation Assistance Act established the Federal Lands Highway Program (FLHP), which distributes funds from the federal motor fuel tax revenues for the construction and rehabilitation of federal roads, including roads in units of the National Forest System. The MN DOT has developed a plan for a long-term program of road improvement and maintenance with the intent to preserve and extend the surface life of principal forest highways, and improve their safety.

The proposed action to reconstruct and perform needed improvements to Minnesota Forest Highway 52 (CSAH 22) is entirely consistent with FHWA policies.

### 1. *National Environmental Policy Act (NEPA)*

This Environmental Assessment (EA) and resultant decision documents provide disclosure of the decision-making process and potential environmental consequences of the alternatives. This EA will be available for a 30-day public review and comment period, after which the FHWA will decide if the proposed action is significant enough to prepare an Environmental Impact Statement (EIS). If an EIS is not required, the Division Engineer may sign a Finding of No Significant Impact (FONSI). Together this EA and the FONSI will conclude the NEPA compliance for this project.

All comments and/or questions can be directed to:

Kevin Rose
Eastern Federal Lands Highway Division
Federal Highway Administration

21400 Ridgetop Circle
Sterling, VA 20166

Telephone: (571) 434 - 1541

2. *Endangered Species Act of 1973*

Section 7 of the Endangered Species Act directs all Federal agencies to use their authority in furtherance of the purposes of the Act by carrying out programs for the conservation of rare, threatened, and endangered species. Federal agencies are required to consult with the U. S. Fish and Wildlife Service (FWS) to ensure that any actions authorized, funded, and/or carried out by the agency does not jeopardize the continued existence of any listed species or critical habitat.

Informal consultation pursuant to the Endangered Species Act was initiated in June, 2002, when a letter was sent to the U. S. Fish and Wildlife Service inquiring whether any Federal or state listed or candidate threatened or endangered plant or animal species or any other special status plant or animal species occur in the project area. The FWS responded on June 14, 2002 that "the bald eagle (Haliaeetus leucocephalus), Canada lynx (Lynx Canadensis) and gray wolf (Canis lupus) are listed as federally threatened in Minnesota and are known, or have the potential, to occur in Beltrami County." Furthermore, "designated critical habitat for the gray wolf includes all of Beltrami County."

3. *Clean Water Act of 1972*

This Act seeks to restore and maintain the chemical, physical, and biological integrity of the nation=s water by a variety of means. Section 404 of the Act directs wetlands protection by authorizing the Army Corps of Engineers to prohibit or regulate, through a permit process, discharge of dredged or fill material into the waters of the United States, including wetlands. Actions described in this document comply with the requirements of Section 404 of the Clean Water Act and all other applicable federal, state, and local agencies.

Water quality in the project area would be protected by the implementation of erosion and sediment controls. Silt fencing will be properly installed and maintained adjacent to all wetlands, and in drainages leading to wetlands. Mitigation measures to minimize sedimentation into all adjacent wetlands include installing hay bales (certified as being free of invasive weed seeds, sediment traps, and wood fiber blankets prior to any soil disturbing activities. Disturbed areas adjacent to wetlands would be revegetated as soon as feasible with annual rye for quick green-up, and native grasses for long-term cover. Special attention will be given to stream banks, and inslopes, backslopes, and ditches leading to wetlands. The recovery area will have a 3:1 inslope in order to minimize gradient and potential for soil erosion. Ditches will be no greater than 50 feet long in deep peat wetlands

in order to prevent channeling. An *Erosion and Sediment Control Plan* would be prepared and included in the construction plans.

4. *National Historic Preservation Act of 1966*

This Act requires Federal agencies to establish programs for evaluating and nominating properties to the National Historic Register of Historic Places, and to consider the effects of undertaking a proposal on listed or eligible properties. Section 106 mandates that Federal agencies take into account the effects of their actions on properties listed or eligible and to give the Advisory Council on Historic Preservation a reasonable opportunity to comment on said actions, if appropriate.

The MN DOT has consulted with the State Historic Preservation Officer (SHPO). On March 22, 2000, the SHPO concluded, "no historic properties eligible for or listed on the National Register of Historic Places will be affected by this project".

Although no adverse effects to cultural resources are anticipated with the implementation of the proposed action, measures would be taken to ensure that adequate protection and consideration of cultural resources are carried out throughout the design and construction phases of the project.

5. *Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations*

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations, requires Federal agencies to promote "nondiscrimination in Federal programs substantially effecting human health and the environment." In response to this direction, Federal agencies must implement actions to identify and address disproportionately high and adverse human health or environmental effects of their programs, policies and activities on minority and low-income populations. The area surrounding CSAH 22 is a sparsely populated, rural area. The proposed project would be preserving a resource that is important to society as a whole, including low income and minority populations. No minority or low-income populations would be disproportionately affected by the project and it is therefore in compliance with this Executive Order.

6. *Forest Plan (IV 92-94)*

The proposed action is consistent with management direction outlined in the Forest Plan (IV 92-94), which states:

> " The Forest will maintain roads to the degree necessary to serve their intended management purpose: protect adjacent resources; provide for user safety; meet applicable air and water quality standards; and provide for user economy, access and convenience. Where conflict arises between public safety and aesthetic standards, an analysis will be

made and the Forest will strive, through cooperation with other road and land management agencies, to work toward meeting public safety needs, while also mitigating the impacts to the visual resource."

## V. **Environmental Commitments**

The No Action Alternative does not meet the purpose and need for the action. In order to minimize the environmental impacts associated with the preferred alternative, the following measures are recommended for implementation:

1. An Erosion and Sediment Control Plan should be prepared and included in the final construction plans.

2. The final construction plans should include directions to the Contractor for minimizing disturbance of woody and turf vegetation.

3. If additional archeological artifacts are encountered during excavation operations, construction should be halted immediately. The State Historic Preservation Office should be notified immediately.

4. The final construction plans should include directions and specifications to the Contractor for revegetating disturbed areas with non-invasive native plant species.

5. The additional mitigation measures presented in this document should be incorporated into any proposed construction project.

## VI. Preferred Alternative

Pave and Reconstruct Roadway to Minnesota Minimum Geometric Design Standards for Type III Natural Preservation Routes as described in table 2.2.1 identified as Alternative B in the alternative analysis section. This alternative would be implemented along with the North Twin Lakes Area Treatment in Section 2.4. The typical section of the Preferred Alternative is shown in Figure 6.1 and 6.2. Figure 6.2 compares the Preferred Alternative with the existing improved section of CSAH 22. This Alternative would be implemented with the environmental commitments referenced in Section V and the mitigation measures described in Section II.

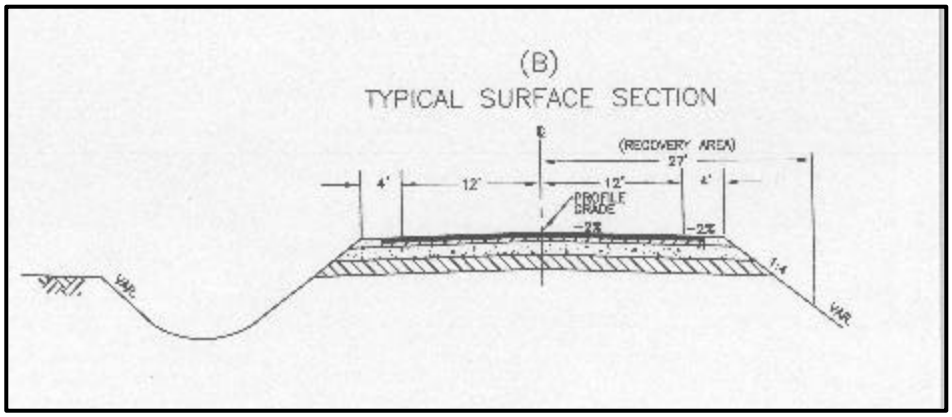


**Figure 6.1: Typical Section of Proposed Alternative B**

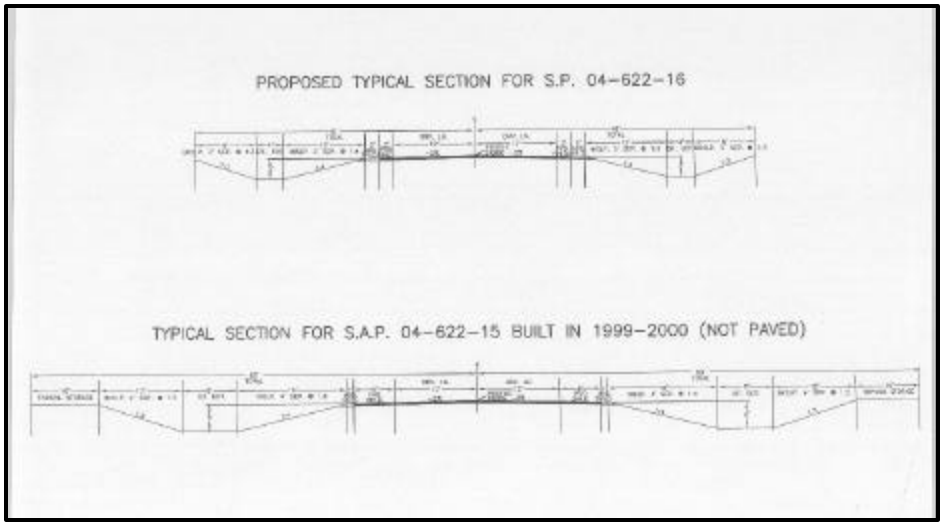


**Figure 6.2: Typical Section of Proposed Alternative B Compared with Existing Improved Section of CSAH-22.**

## VII. Public Involvement Activities

### A. Public Newsletter

An informational newsletter was mailed to 132 citizens, agencies, and other interested parties on December 3, 2001. Notice of the newsletter was advertised in a local newspaper, the American, and posted on the World Wide Web at http://www.efl.fha.dot.gov/planning/planning.htm. ( See Appendix)

### B. Written Comments

A 30-day public comment period was held from December 10 until January 10, 2002. Twenty-two comment forms and letters were received. The majority of comments related to the following issues or concerns:

1. **Design Width and Speed:** The width of the road and the speed limit along the road should be kept to a minimum. Many felt that if the road were widened, driving speeds along the route would increase. Safety, increased traffic volumes, natural and cultural resource impacts, and noise were secondary factors.

2. **Surfacing:** Many comments were in favor of paving the road with asphalt; however, they believed that the road should be paved on the existing alignment and preferably at the existing width. Several did not feel that the traffic volumes along the road warranted major improvements, but they were in favor of paving the road in order to limit dust, reduce wear and tear on their cars, and improve emergency access, and a smoother riding surface.

3. **Public Involvement:** Many expressed a desire for more opportunities for citizen input. They felt that in many cases decisions have already been made without getting input from the public, and when their opinions were asked, they were often ignored. Many requested that they continue to be kept informed of the projects progress and be allowed to review the alternatives being considered.

4. **Roadway Character:** The existing road has a "rustic" and "scenic" feel. Comments requested that the existing character of the roadway be maintained. It was expressed that widening of the road would require extensive clearing of vegetation that would change the scenic character of the road and be inconsistent with the "values" of the area. Public use and driving experience were also discussed.

5. **Right-of-Way and Property Impacts:** Many were concerned about the amount of right-of-way that would be required to improve the road. Loss of actual property, property value, and buffer area between the road and neighboring homes were primary concerns.

C. Summary of Written Comments

| COMMENT/ISSUE: | TOTAL |
|---|---|
| Maintain "wilderness feel" and scenic character of the road. | 7 |
| Right-of-Way. Loss of property and value due to widening of the road. Proximity of roadway to homes. | 7 |
| Loss of vegetation, buffer between homes/ recreation site and road. Clearing for utilities. | 5 |
| Wetland, water quality impacts. Compensatory mitigation must be completed within the forest. | 5 |
| Upset about the last CSAH 22 project, public input was ignored. | 5 |
| Limit the size, speed of the roadway. | 11 |
| Pave, improve the roadway on the existing alignment. | 9 |
| Impacts to Threatened and Endangered Species, wildlife. | 3 |
| Purpose and Need? Does traffic actually warrant major improvements? | 3 |
| Should an EIS be prepared? | 1 |
| Those seeking a wider, paved road can use alternate, parallel routes (ie. CSAH 12 & 20). | 2 |
| Use English units. | 2 |
| Be sensitive to residents and in particular the area between the Twin Lakes. | 5 |
| Consider using NPR Type II standards. | 1 |
| Emergency vehicles and response would benefit. | 1 |
| Want more opportunities for citizen input; want to be kept informed of projects progress. | 9 |
| Do nothing. Don't improve the roadway. | 2 |
| EA should cover entire project, not just Federal Lands. Fully comply with NEPA. | 2 |
| Cultural Resources. | 1 |
| Invasive Species and revegetation should be addressed. | 1 |
| Design should not encourage use of snow mobiles, ATV's, etc. | 1 |
| Borrow material will not be available from FS lands. | 1 |
| Right-of-way and easements from private owners may be required. | 1 |
| Access to all roads and driveways must be maintained. | 1 |

D. Public Meeting

A public meeting was conducted on June 18, 2002 to inform citizens of the progress of the project being considered for CSAH 22 and to receive input from the citizens. An informational newsletter was mailed to 132 citizens, agencies, and other interested parties on May 21, 2002. Notice of the newsletter was advertised in a local newspaper, the American, and posted on the World Wide Web at http://www.efl.fhwa.dot.gov/planning/public notices/index.htm. ( See Appendix) The meeting identified a need for a landscape plan for the proposed project.

E. Written Comments

A 30-day public comment period was held from June 18, 2002 until July 18, 2002. Eight comment forms and letters were received. The majority of

comments related to the following issues or concerns:

1. **Designation of NPR Type for Road:** Comments showed mixed feeling on the subject of changing or maintaining the current NPR Type III standard for the road. Those that are pleased with the current Type III designation sited safety and a concern that changing the designation would result in more delay for the project. Those that want the designation changed emphasized the Type I standard as a more appropriate designation for the road. Those who want it changed are mostly concerned with the greater amount of disturbance on the surrounding habitat and the greater width of the right-of-way associated with a NPR Type III designation.

2. **Surfacing:** Many comments were in favor of paving the road with asphalt; however, they believed that the road should be paved on the existing alignment and preferably at the existing width. Several did not feel that the traffic volumes along the road warranted major improvements, but they were in favor of paving the road in order to limit dust, reduce wear and tear on their cars, and provide a smoother riding surface.

3. **Begin Construction:** Many expressed a desire to commence construction activities. While it was most often emphasized to address the many needs and concerns involved with the road, it was also noted that many people wanted the road paved soon to improve safety and reduce wear and tear on vehicles.

4. **Roadway Character:** Comments requested that the existing character of the roadway be maintained. It was expressed that widening of the road would require extensive clearing of vegetation that would change the scenic character of the road and be inconsistent with the "values" of the area.

5. **Right-of-Way and Property Impacts:** Many were concerned about the amount of right-of-way that would be required to improve the road. Loss of actual property, property value, and buffer area between the road and neighboring homes were primary concerns.

F. Summary of Written Comments

| COMMENTS/ISSUE: | TOTAL |
|---|---|
| Maintain scenic character of the road. Maintain a low impact to the environment. | 3 |
| Right-of-Way. Loss of property and value due to widening of the road. Proximity of roadway to homes. | 3 |
| Start construction soon, ready for completion | 3 |
| Limit the size, speed of the roadway. | 2 |
| Pave, improve the roadway on the existing alignment. | 4 |
| In favor of using NPR Type III standards. 12' lanes with 4' shoulders paved or 2' paved/2' gravel | 2 |
| A variance is desirable. Consider using NPR Type I standards. 11' lanes with 2' unpaved shoulders | 2 |
| Temporary easements and backslopes should be revegetated with trees and shrubs. Efforts should be kept to maintain vegetation that is placed. | 1 |
| Current design is good | 1 |
| Loss of vegetation, buffer between homes/ recreation site and road. | 1 |
| Shoulders should be paved to accommodate pedestrian traffic | 1 |
| Road should be shifted South from North Twin Lake to improve space for entry and exit of lake access point | 1 |
| Many Pink ladyslippers are along roadway, residents should be allowed to move them | 1 |
| Timing of surveys for Threatened and Endangered Species may cause inaccurate results. | 1 |
| Plan for retaining wall is satisfactory | 1 |
| Final Plans should not be completed until environmental consideration and public input has been sought. Fully comply with NEPA. | 1 |
| Concerned with increase of edge habitat causing fragmentation and causing serious problems for certain species. | 1 |

## VIII. **Coordination**

As required by FHWA policy, it is the FHWA's objective to work with state, federal, and local governmental and private organizations to ensure that the Forest and its programs are coordinated with theirs, and are supportive of their objectives, as far as proper management of the Forest permits, and that their programs are similarly supportive of Forest programs.

Consultation and coordination have occurred with numerous agencies for the development of the alternatives and preparation of the EA. The following people, organizations, and agencies were contacted for information, which assisted in identifying important issues, developing alternatives, and analyzing impacts:

U. S. Fish and Wildlife Service

U. S. Army Corps of Engineers

Minnesota Department of Natural Resources (Fisheries or Water)

Minnesota State Historic Preservation Office

Leech Lake Band of Ojibwe

In order to give the public and all interested parties a chance to review the EA, it will be noticed for public comment for a minimum of 30 days with a notice in local newspapers. During this 30-day period, the EA will be available for review at the Beltrami County Highway Department, the Forest Service Office at Cass Lake, the Forest Service Office at Blackduck, and the local library. Copies of the EA will also be sent to applicable Federal, State, and local agencies for their review and comment.

## IX. List of Preparers and Reviewers

The following individuals contributed to the development of this document:

Federal Highway Administration
- Brigitte A. Azran, Environmental Compliance Engineer
- Kevin Rose, Environmental Protection Specialist
- Satvinder Sandhu, Environmental Compliance Engineer
- Jack Van Dop, Environmental Compliance Specialist
- Cheryl Martin, Environmental Engineer

Chippewa National Forest
- Tracy Beck, District Ranger
- Leo Johnson, NEPA Cordinator
- John Freetley, Forest Engineer

MN DOT
- Lou Tasa, Assistant District Engineer/State Aid

Beltrami Highway Department
- Jim Worcester, County Highway Engineer
- John Noehring, Highway Operations Manager

Army Corps of Engineers
- Michelle Hansen, Project Manager

## X. References


*Gravel Roads Maintenance and Design Manual. Skorseth,* Ken and Ali A. Selim, Ph.D., P.E. South Dakota Local Transportation Assistance Program. November 2000.

*Phase II Archaeological Evaluation of Sites 21-BL-183 and 21-BL-185 in Association with the Reconstruction of CSAH 22 from CR 307 to CSAH 39 (S.A.P. 04-622-16), Beltrami County, Minnesota.* Leech Lake Heritage Sites Program. Cass Lake, Minnesota. February 4, 2000.

*Roads Analysis: Informing Decisions About Managing the National Forest Transportation System.* U.S. Forest Service. August 1999.

*Phase I Archaeological Survey of CSAH 22 from CR 307 to CSAH 39 (S.A.P. 04-622-16), Beltrami County, Minnesota.* Leech Lake Heritage Sites Program. Cass Lake, Minnesota. March 6, 1998.

*Flexibility in Highway Design.* Federal Highway Administration. Publication Number: FHWA-PD-97-062. Washington, DC. 1997.

*Metric Revision to the Park Road Standards – Geometric Design Guide for Use on Park Roads and Parkways*. National Park Service. Revised September 1997.

*Draft Minimum Impact Rural Roads*. Keller, Gordon R. and Gerald P. Bauer. U.S. Forest Service. January 1997.

*Phase I Archaeological Survey of S.A.P. 04-622-14 (CSAH 22) Bridge Approach and Realignment of Bridge Approaches, Beltrami County, Minnesota.* Leech Lake Heritage Sites Program. Cass Lake, Minnesota. September 29, 1995.

*A Policy on Geometric Design of Highways and Streets*. American Society of State Highway and Transportation Officials. Washington, DC. 1994.

*Beltrami County Natural Preservation Route Designation Request for County State Aid Highway 22*. Beltrami County Highway Department. January 1994.

*Biological Assessment for Proposed Roadway Improvements Along County Road 22 (CSAH 22 [MN FH 52]), Beltrami County, Minnesota*. Tetra Tech, Reston, Virginia. September 2002.

*Biological Assessment for Proposed Roadway Improvements Along County Road 22 (CSAH 22 [MN FH 52]), Beltrami County, Minnesota*. Tetra Tech, EM Inc., Reston, Virginia. July 2003.

*Minnesota Rules Chapter 8820, State Aid Operations, Natural Preservation Routes.* Minnesota Department of Transportation. As adopted in June 1993.

*Local Low Volume Roads and Streets*. American Society of Civil Engineers. New York, New York. November 1992.

## XI. **Appendix A B Documentation of Agency Consultation**

MINNESOTA HISTORICAL SOCIETY

STATE HISTORIC PRESERVATION OFFICE

March 22, 2000

Mr. Tom Kozojed
Beltrami County Highway Dept.
2493 Adams Ave. NW
Bemidji, MN 56601

RE: S.P. 04-622-16; CSAH 22 from C.R. 307 to CSAH 39
Beltrami County
SHPO Number: 1998-2166

Dear Mr. Kozojed:

Thank you for the opportunity to review and comment on the above project. It has been reviewed pursuant to the responsibilities given the State Historic Preservation Officer by the National Historic Preservation Act of 1966 and the Procedures of the Advisory Council on Historic Preservation (36CFR800), and to the responsibilities given the Minnesota Historical Society by the Minnesota Historic Sites Act and the Minnesota Field Archaeology Act.

We have reviewed the results of the survey of the project area. We concur with the determinations that sites 21BL183 and 21BL185 do not meet National Register criteria. Further, we conclude that **no historic properties eligible for or listed on the National Register of Historic Places will be affected** by this project.

Please contact Dennis Gimmestad at (651)296-5462 if you have any questions on our review of this project.

Sincerely,

Britta L. Bloomberg
Deputy State Historic Preservation Officer

cc: Rose Kluth, LLHSP

MHS Elegibility recommendation Reid 3-24-00
622-16

DEPARTMENT OF THE ARMY
ST. PAUL DISTRICT, CORPS OF ENGINEERS
ARMY CORPS OF ENGINEERS CENTRE
190 FIFTH STREET EAST
ST. PAUL, MN 55101-1638

REPLY TO
ATTENTION OF

November 21, 2002

Construction-Operations
Regulatory (02-01831-MEH)

Ms. Brigitte A. Azran
Federal Highway Administration
Environmental Compliance Engineer
21400 Ridgetop Circle
Sterling, Virginia 20166-6511

Dear Ms. Azran:

We have reviewed information about a project of the Beltrami County Highway Department that would impact approximately 14.3 acres of wetlands adjacent to the Twin Lakes and other wetlands/waters. The project site transverses Secs. 31, 32, 33, 34, 35, 36, T. 148N., R. 31W., Beltrami County, Minnesota.

It is our understanding that a Federal Environmental Assessment (EA) is being prepared by the Federal Highway Administration (FHWA) in cooperation with the U.S. Forest Service. According to a letter received from you on February 21, 2002, the purpose of the EA is to develop alternatives that would address the safety, operational and design deficiencies on County State-Aid Highway 22 (CSAH 22) also known as Minnesota Forest Highway 52 (MN FH 52). We agree with your request that the Corps participate as a consulting party in the review of any undertakings related to the project described above.

It is also our understanding that wetland/water impacts have been determined by the Beltrami County Highway Department. However, we have not had an opportunity to field review the proposed impacts nor have we received a copy of the wetland delineation for our review.

Based on the information we have received to date, we believe that a Department of the Army permit will be required for this project. Because we must notify certain other agencies about this project and provide them a reasonable opportunity to comment, our review for most projects may take at least 90 days. The applicant can help expedite this procedure if they accomplish the following:

* Fill out the application completely and specifically.

* Send accurate drawings, including smaller, 8 1/2 by 11 inch, copies for our public notice.

## XII. **Appendix B – Public Notices and Handouts**

**Minnesota Forest Highway 52**

***Reconstruction of CSAH 22***

March 4, 2002

**AGENDA**

I. Introductions

II. Review Public Comments

III. Discussion of Proposed Alternatives

IV. How should we proceed? Which Alternatives should be further analyzed? What additional resource surveys are needed?

- Biological Assessment SOW

V. Project's Current Status and Tentative Schedule

| | |
|---|---|
| - Biological Assessment | April, 2002 |
| - Public Meeting | May or June, 2002 |
| - Draft EA | August, 2002 |
| - Final EA & Public Comment Period | September, 2002 |
| - Decision Document | October, 2002 |

VI. Closing and Action Items

# Proposed Reconstruction

## *CSAH 22, Minnesota Forest Highway 22*

**Beltrami County, Minnesota**

## *OPEN HOUSE*

## *PUBLIC INFORMATION MEETING*

June 18, 2002
6:00 P.M. to 8:00 P.M.
MN DOT Northwest District Office

U.S. Department of Transportation
Federal Highway Administration
Eastern Federal Lands Highway Division
Sterling, Virginia

In cooperation with:

USDA Forest Service
Chippewa National Forest

Minnesota Department of Transportation

Beltrami County Highway Department

**BACKGROUND**

***The Eastern Federal Lands Highway Division (EFLHD) of the Federal Highway Administration (FHWA), in cooperation with the U.S. Forest Service (FS), the Minnesota Department of Transportation (MN DOT), and the Beltrami County Highway Department are developing alternatives for proposed roadway improvements along CSAH 22 in Beltrami County. Repairs are needed to improve the riding surface, upgrade the road to current standards, correct drainage and geometric deficiencies, improve driver safety, and provide for future transportation needs.***

The proposed study area is along approximately 6.9 miles of CSAH 22 (MN PFH 52) between CSAH 27 and CSAH 39 in Beltrami County, Minnesota. The route passes through a predominately rural area within the boundaries of the Blackduck State Forest and the Chippewa National Forest. The existing gravel roadway averages 22 feet in width with substandard ditches and varying slopes. Located adjacent to the roadway is heavy vegetation and some wetland areas, and in one section the Twin Lakes. The current legal speed limit on the route is 55 mph; however, the actual speed is limited in some areas to approximately 30 mph due to the roadway geometry.

As part of the planning and analysis an Environmental Assessment (EA) will be prepared to evaluate several alternatives for accomplishing this work with the least impact to the social, natural, and cultural environment. The Federal Highway Administration in cooperation with the U.S. Forest Service will prepare the EA.

## PURPOSE AND NEED

The purpose is twofold. The first is to improve the overall condition of the roadway in order to make the road safer for the growing traffic volume, while minimizing impacts to the surrounding natural and cultural resources. The second is to upgrade the capacity of the roadway, so it can withstand heavier loads associated with current hauling levels, without diminishing the existing character of the roadway.

The current average daily traffic (ADT) on CSAH 22 is 180 vehicles per day; however, within the next 20 years, the ADT is projected to reach approximately 255 vehicles per day. The existing roadway does not meet current roadway design and safety standards, particularly at some of the roadway intersections and along curves. CSAH 22 is frequently utilized by logging trucks, school buses, and other large vehicles. This use is expected to increase in the future. In addition, the existing gravel roadway is in fair to poor condition resulting primarily from drainage problems throughout. These drainage problems have resulted in numerous potholes, a soft roadbed during and after rain events, evidence of rutting, and areas of ponding water.

The FHWA intends to explore alternatives for making improvements to CSAH 22 without diminishing the driver experience, the character of the roadway, or existing natural and cultural resources. After the alternatives have been fully evaluated and the public has had an opportunity to review and provide comment on the proposed action, the FHWA will issue a decision on how we intend to proceed.

## PUBLIC INVOLVEMENT

Public information meetings provide an opportunity for the FHWA, in cooperation with the FS, MN DOT, and Beltrami County Highway Department to present information to the general public while the various stages of the project development process are being undertaken. It also offers an opportunity for individuals, representatives of civic groups, public agencies, and governing bodies to offer comments, submit written material, and ask questions regarding the proposed project, as well as to become informed of the schedule for future events in the process. Maps and other pertinent information are provided as displays at the meeting. Informal public information meetings are beneficial to both citizens and Government. They permit an exchange of ideas and information for the development of alternatives, identification of potential impacts and selection of preferred courses of action. Comments will assist the planners in addressing the community's concerns. The intent of this process is to develop a design, which meets the project needs, yet minimizes adverse environmental and community impacts.

### PROPOSED ALTERNATIVES

1. No Action Alternative
2. Reconstruct Roadway to Type III Natural Preservation Route Standards (ie. two 12' lanes with 4' shoulders)
3. Reconstruct Roadway to Type I Natural Preservation Route Standards (ie. two 11' lanes with 2' shoulders)
4. Reconstruct Roadway to Modified Type III Natural Preservation Route Standards (ie. two 12' lanes with 2' shoulders)
5. Others?

### Shoulder Options For Each Alternative Listed Above

a. Paved Shoulders
b. Gravel Shoulders
c. Aggregate Topsoil Shoulders
d. Seeded Shoulders

### TENTATIVE PROJECT DEVELOPMENT SCHEDULE

| | |
|---|---|
| Public Information Meeting | June 18, 2002 |
| Public Comment Period Ends | July 18, 2002 |
| Prepare Biological Assessment | June – August, 2002 |
| Complete Environmental Assessment (EA) | September 2003 |
| Compile comments on EA, Public Meeting | October 2003 |
| Begin Final Design | November 2003 |
| Start Construction | Summer 2004 |

# *PUBLIC INFORMATION MEETING*

## *for the*

## *Reconstruction of*
## *County State-Aid Highway 22*
## *Minnesota Public Forest Highway 52*

## *Beltrami County, MN*

## *6:00 pm to 8:00 pm*

## *MN DOT District Office*

# *PRELIMINARY ALTERNATIVES TO BE RETAINED FOR FURTHER STUDY*

1. No Action Alternative

2. Reconstruct Roadway to Type III Natural Preservation Route Standards (ie. two 12' lanes with 4' shoulders)

**OPTIONS**

a. Paved Shoulders
b. Gravel Shoulders
c. Aggregate Topsoil Shoulders
d. Seeded Shoulders

3. Reconstruct Roadway to Type I Natural Preservation Route Standards (ie. two 11' lanes with 2' shoulders)

**OPTIONS**

a. Paved Shoulders
b. Gravel Shoulders
c. Aggregate Topsoil Shoulders
d. Seeded Shoulders

4. Reconstruct Roadway to Modified Type III Natural Preservation Route Standards (ie. two 12' lanes with 2' shoulders)

**OPTIONS**

e. Paved Shoulders
f. Gravel Shoulders
g. Aggregate Topsoil Shoulders
h. Seeded Shoulders

5. Others???

# ALTERNATIVES CONSIDERED BUT DISMISSED

1. Rehabilitate Existing Roadway
   - Perform needed drainage repairs
   - Add additional aggregate base material
   - Grading to remove potholes and re-establish ditches
   - And other minor work.

   * This alternative was dismissed due to public comments requesting:

   a) A paved roadway to improve riding conditions, and
   b) The Highway Department's desire to reduce maintenance costs along the roadway.

2. Provide for a paved bicycle lane or 6' wide paved shoulder.

   * This alternative was dismissed due to public and resource agency comments stating:

   a) The environmental impacts would be too great,
   b) There is not enough demand to not warrant a separate bike lane,
   c) CSAH 22 is not designated a bicycle route by the County,
   d) Changes in the character of the road would result, and
   e) The low traffic volumes do not prohibit shared use of the road.

3. Reconstruct Roadway to AASHTO Guidelines for Geometric Design of Very Low-Volume Local Roads (ie. total roadway width of 20 feet)

   * This alternative was dismissed due to agency comments stating:

   a) Larger vehicles such as logging trucks and school buses utilize the road. The roadway would be too narrow to accommodate these types of vehicles safely.
   b) Safety concerns would not be fully addressed.
   c) Cyclists, pedestrians, or other recreational users would find the roadway to be unsafe or uncomfortable due to the narrowness of the roadway.
   d) Insufficient space would be available for disabled vehicles or slow-moving vehicles to pull-off the roadway.

# Minnesota Minimum Geometric Design Standards for Type I Natural Preservation Routes

| Surface Type | Design Speed | Lane Width | Shoulder Width | Inslope | Recovery Area | Design Strength | Bridge to Remain |
|---|---|---|---|---|---|---|---|
| | mph | feet | feet (a) | Rise:run (b) | feet (c) | tons | feet (d) |
| Aggregate | 30 | 11 | 1 | 1:3 | 3 | -- | 22 |
| Paved | 30 | 11 | 2 | 1:3 | 10 | 9 | 22 |

(a) The designer will provide a four-foot paved shoulder if the route is a popular bicycle route. If the route has scenic vistas that will require parking vehicles along the shoulder, widening the shoulder at these locations is acceptable.

(b) Applies to slope within recovery areas only. Other design features, such as guardrail or retaining walls, should be considered in particularly sensitive areas in lieu of reconstructing the inslope in accordance with part 8820.4060.

(c) Obstacle-free area (measured from edge of traffic lane).

(d) Inventory rating of HS 15 is required. A bridge narrower than these widths may remain in place if the bridge is not deficient structurally or hydraulically.

Ditch depths and widths must be kept to the minimum required to function hydraulically and to provide for adequate snow storage when a standard ditch would negatively impact the surroundings.

The designer shall specify in the plan and special provisions that the clearing width is to be kept to the absolute minimum. In sensitive areas, the normal clearance allowed to a contractor for working room is zero unless otherwise required for special conditions.

Curb and gutter may be used in lieu of a ditch section under the paved option. The lane width, shoulder width, and recovery area must be maintained.

For designated national forest highways within national forests, and state park access roads within state parks, this subpart applies only where the projected ADT is less than 100, unless the route has been designated as a natural preservation route.

From Minnesota Rules 2000 Chapter 8820

# Minnesota Minimum Geometric Design Standards for Type III Natural Preservation Routes

| Surface Type | Design Speed | Lane Width | Shoulder Width | Inslope | Recovery Area | Design Strength | Bridge to Remain |
|---|---|---|---|---|---|---|---|
| | mph | feet | feet (a) | Rise:run (b) | feet (c) | tons | feet (d) |
| Aggregate | 30 | 12 | 3 | 1:4 | 10 | -- | 24 |
| Paved (e) | 30 | 12 | 4 | 1:4 | 10 | 9 | 24 |
| Paved | 40 | 12 | 4 | 1:4 | 15 | 9 | 24 |

(a) The designer will provide a six-foot paved shoulder if the route is a popular bicycle route. If the route has scenic vistas that will require parking vehicles along the shoulder, widening the shoulder at these locations is acceptable.

(b) Applies to slope within recovery areas only. Other design features, such as guardrail or retaining walls, should be considered in particularly sensitive areas in lieu of reconstructing the inslope in accordance with part 8820.4060. Approach sideslopes must be 1:4 or flatter within the recovery area when the ADT exceeds 400.

(c) Obstacle-free area (measured from edge of traffic lane).

(d) Inventory rating of HS 15 is required. A bridge narrower than these widths may remain in place if the bridge does not qualify for federal-aid bridge funds.

(e) This standard may be applied only when the project is located in a subdivided area or an area in a detailed development process, and physical restraints are present that prevent reasonable application of another level of these standards.

Ditch depths and widths must be kept to the minimum required to function hydraulically, to be traversable if within the recovery area, and to provide for adequate snow storage when a standard ditch would negatively affect the surroundings.

The designer shall specify in the plan and special provisions that the clearing width is to be kept to the absolute minimum. In sensitive areas, the normal clearance allowed to a contractor for working room is zero unless otherwise required for special conditions.

From Minnesota Rules 2000 Chapter 8820

# DESIGN CONSIDERATIONS TO MINIMIZE IMPACTS

1. Typical section geometry
2. Retaining wall types and aesthetics
3. Use of curb and gutter
4. Use of guardrail
5. Horizontal shifting of roadway alignment
6. Others??

## TENTATIVE PROJECT DEVELOPMENT SCHEDULE

| | |
|---|---|
| Public Information Meeting | June 18, 2002 |
| Public Comment Period Ends | July 18, 2002 |
| Prepare Biological Assessment | June – August, 2002 |
| Complete Environmental Assessment (EA) | September 2003 |
| Compile comments on EA, Public Meeting | October 2003 |
| *Begin Final Design* | *November 2003* |
| Start Construction | Summer 2004 |

# WEBSITE

http://www.efl.fha.dot.gov/planning/planning.htm

# PUBLIC COMMENT FORM

**Canal**

The improvements to CSAH 22 are being coordinated between the Federal Highway Administration (FHWA), the U.S. Forest Service (FS), the Minnesota Department of Transportation (MN DOT) and the Beltrami County Highway Department. Considerable work has yet to be accomplished before construction can begin on this project. The needs and comments of the local residents, neighboring communities, and interest groups are important considerations for this project. Please feel free to submit any concern or comment utilizing this form. We ask that you please submit your comments to the address provided below by **July 18, 2002**.

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Name: _____

Address _____

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Comments: _____

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For further information, please contact:

Ms. Brigitte A. Azran
Environmental Compliance Engineer
Federal Highway Administration
21400 Ridgetop Circle
Sterling, VA 20166

**Phone:** **1(800) 892-8776 x.6283**

Fax: (703) 404-6217

Beltrami County

# PUBLIC INFORMATION NOTICE

## THE FEDERAL HIGHWAY ADMINISTRATION SEEKS COMMENTS

The Eastern Federal Lands Highway Division (EFLHD) of the Federal Highway Administration (FHWA), in cooperation with the U.S. Forest Service (FS), the Minnesota Department of Transportation (MN DOT), and the Beltrami County Highway Department are developing alternatives for proposed roadway improvements along CSAH 22 (MN FH 52) in Beltrami County. Repairs are needed to improve the riding surface, adjust the roadway=s substandard lane width, correct drainage and geometric deficiencies, improve driver safety, and provide for future transportation needs.

As part of the planning and analysis an Environmental Assessment (EA) will be prepared to evaluate several alternatives for accomplishing this work with the least impact to the social, natural, and cultural environment. The Federal Highway Administration in cooperation with the U.S. Forest Service will prepare the EA.

### Background

The proposed study area is along approximately 10.8 km of CSAH 22 between CSAH 27 and CSAH 39 in Beltrami County, Minnesota. The route passes through a predominately rural area within the boundaries of the Blackduck State Forest and the Chippewa National Forest. The existing gravel roadway averages 6.1 m in width with substandard ditches and varying slopes. Located adjacent to the roadway is heavy vegetation and some wetland areas, and in one section the Twin Lakes. The current legal speed limit on the route is 55 mph; however, the actual speed is limited in some areas to approximately 30 mph due to the roadway geometry.

### Actions Taken or Underway

- A Phase I Archaeological Survey and a Phase II Archaeological Site Evaluation have been completed for the project study area. By letter dated March 22, 2000, the State Historic Preservation Officer has concluded that no historic properties eligible for or listed on the National Register of Historic Places will be affected.

- A wetland inventory has been performed within the project study area. There are wetlands (swamps, marshes, bogs, sloughs, ponds, etc.) within or adjacent to the existing roadway alignment. Specific impacts will be evaluated as part of the project development process.

## Public Involvement

Public involvement activities provide an opportunity for the FHWA and its partners to present information to the general public while the various stages of the planning process are being undertaken. It also offers an opportunity for individuals, representatives of civic groups, public agencies, and governing bodies to offer comments, submit written material, and ask questions regarding the proposed project, as well as become informed of the schedule for future events in the process. Public involvement permits the exchange of ideas and information for the development of alternatives, identification of potential impacts, and selection of the preferred courses of action. Comments and suggestions will assist the planners in addressing the communities concerns. The intent of this process is to develop a design, which meets the project needs, yet minimizes adverse environmental and community impacts.

All interested citizens and interest groups are invited to provide written comments. Written comments should be mailed to Mr. Allen W. Burden, Division Engineer, Eastern Federal Lands Highway Division, 21400 Ridgetop Circle, Sterling VA 20166 by January 10, 2002. For more information, please call Ms. Brigitte Azran, Environmental Compliance Engineer at (703) 404-6283.

## Alternatives

Based on an analysis of the existing conditions, several alternatives and means of implementing various alternatives for improving CSAH 22 (MN FH 52) will be developed. The public is encouraged to assist in the development of these alternatives through the public involvement process. These alternatives and other information will be made available for public review and comment in the future.

Alternatives and other information obtained during the analysis and public involvement process will be evaluated for potential social, economic and environmental impact. Measures to mitigate potential adverse impacts will be reviewed and considered during the review process. Public involvement and comment on the alternatives will assist in selection of a preferred course of action.

## Considerations for Developing and Selecting Alternatives (Not in Order or Priority)

- $ Transportation Needs and Public Safety
- $ Impacts on the Environment
- $ Visitor Use and Experience
- $ Impacts to the Surrounding Communities
- $ Impacts on Cultural Resources

## Tentative Project Development Schedule

| | |
|---|---|
| Public Information Notice | December 10, 2001 |
| Development of Alternatives | January 2002 |
| End of Public Comment Period | January 10, 2002 |
| Preparation of Environmental Assessment | Spring 2002 |
| Public Review of Environmental Assessment | Summer 2002 |
| Notice of Decision/Begin Final Design | Late Summer 2002 |
| Advertise for Construction | Spring 2003 |


*Beltrami County*


**PUBLIC COMMENT FORM**

The improvements to CSAH 22 are being coordinated between the Federal Highway Administration (FHWA), the U.S. Forest Service (FS), the Minnesota Department of Transportation (MN DOT) and the Beltrami County Highway Department. Considerable work has yet to be accomplished before construction can begin on this project. The needs and comments of the local residents, neighboring communities, and interest groups are important considerations for this project. Please feel free to submit any concern or comment utilizing this form. We ask that you please submit your comments by January 10, 2002.

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Name: _____

Address: _____

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Comments: _____

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For further information, please contact:

Ms. Brigitte A. Azran
Environmental Compliance Engineer
Federal Highway Administration
(703) 404-6283

fax (703) 404-6217

Attn: Brigitte A. Azran
Planning & Programming

Federal Highway Administration
Eastern Federal Lands Highway Division
21408 Ridgetop Circle
Sterling, VA 20166

Postage Required

Fold Along Line

**Project No. MN PFH 52-1(1)**

*Beltrami County*